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HYGEIA

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The HEALTH MAGAZINE

PUBLISHED BY THE AMERI[illegible]AL ASSOCIATION

October, 1933

Heart Disease

25 Cents

The Athlete's Health

The "Demon" Housekeeper

SPOON FRIGHT!

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White's **COD LIVER OIL CONCENTRATE TABLETS**

ACCEPTED AMERICAN MEDICAL ASSN Council on Pharmacy and Chemistry

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HYGEIA

THE HEALTH MAGAZINE

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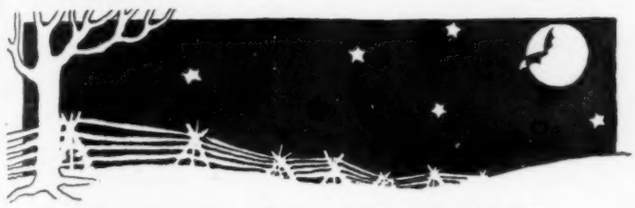

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CONTRIBUTORS TO THIS ISSUE

● Dr. Paul Dudley White, a Boston internist, contributes a discussion of "Heart Disease—Then and Now." This paper was presented during medical week at A Century of Progress as a part of the program sponsored by the Association for the Advancement of Science. . . . Doris W. McCray, food consultant, introduces a new department, "A Housewife Looks at the Committee on Foods," in which she will bring to Hygeia readers the observations and decisions of the American Medical Association's Committee on Foods. . . . In "Worm Powders," Dr. R. R. Rogers, Warren, Ohio, reveals the harm that misguided parents can do when they try to diagnose children's ailments.

● Dr. Lee D. Cady, a St. Louis internist, explains the plight of "The 'Demon' Housekeeper," a victim of nervousness and fear. . . . In preparation for Fire Prevention Week, which will be observed nationally from October 8 to 14, Curtis Billings, Chicago, who is affiliated with the National Safety Council, presents a timely article on "The Curse of the Fire Spirit." . . . Frederick Bradman, a reclaimed "polio" victim, who was stricken while he was under naval training at sea, contributes an encouraging article, entitled, "Salvage."

● Dr. J. Robert Burke, Holyoke, Mass., who specializes in diseases of the eye, ear, nose and throat, answers the question, "Should Your Child Wear Glasses?" Several other articles on vision will be presented by Dr. Burke in subsequent issues. . . . In "Wings of Death," Dr. Lydia Allen DeVilbiss, Miami, Fla., describes the war which has been waged against yellow fever bearing mosquitoes. . . . George R. McCormack, who is associated with the George Rogers Clark School, Vincennes, Ind., writes on "Safeguarding the Athlete's Health."

● Dr. P. M. Ashburn, Colonel, U. S. Army, retired, adds another chapter to his series on "Progress in Preventive Medicine," this time discussing contact diseases, focal infections, anemias and deficiency diseases. . . . Alfred E. Parker, director of physical education, Berkeley (Calif.) High School, explains the steps necessary in "First Aid to Yourself."

● Dr. Thurman B. Rice, professor of bacteriology and public health, Indiana University School of Medicine, deals with the important subject, "The Teaching of Sex to the Young Child." . . . Susan Beach gives pertinent points on "Craftsmanship in Canning."

● For the younger readers, Dr. Oscar Reiss, associate professor of pediatrics, University of Southern California Medical School, and Dorothy W. Baruch, instructor in education, Whittier College, continue to answer questions that boys and girls usually ask. This month they write about "The Parts of You That You See All the Time." . . . Ivah Simpson tells the Hallowe'en story of "Catawampus and the Old Beverage Witch" and gives patterns for making them.

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A Cartoon About Doctors

An Editorial

THE gratitude of the patient to his physician has been recorded since the beginning of time in all sorts of tributes, dependent on the occupation and interests of the patient concerned. There have been magnificent poems written about physicians by poets of note. Many a novelist has paused in his recital of dramatic events to pay a meed of praise to a physician who has sacrificed himself and family for the life of his patient. There are paintings depicting the work of the physician and those showing him as a comforter and healer of mankind; indeed these far outnumber caricatures which would make the physician the butt of satire and sarcasm. Most widely known, no doubt, is the famous painting by Luke Fildes, entitled, "The Doctor." There are, however, innumerable paintings of doctors and patients by other great masters of art available in every great gallery in the world.

WAITING FOR THE DOCTOR AND MAKING THE DOCTOR WAIT
"OH, TELL HIM TO HURRY, HURRY!"
"DOCTOR, FOR HEAVENS SAKE, HURRY! TH' BABY'S IN CONVULSIONS! HURRY! HURRY!"
When it's important that the baby lives.
TH' DOCTOR'S BILL. OH, WELL HE CAN WAIT"
1933
SEP.
2
When it's unimportant whether the doctor lives.

The art of the cartoonist has an appeal to vast masses of people beyond the appeal of the work of the poet, the writer and the artist. The cartoonist is in contact with the affairs of daily life. He sees the world as it is. His draftsmanship is planned to catch the eye and carry home a thought and to appeal to the mind through the eye rather than to the sense of color and line primarily. Many great cartoonists have tried in local newspapers and in the syndicated press to give to their public some conception of the relationship of the physician to society. Among the cartoonists of the United States the name of John T. McCutcheon perhaps leads all the rest. For many years his sketches in the Chicago *Tribune* have attracted world-wide attention. One of them, at least, because of its sentimental appeal and beautiful draftsmanship, has been reprinted year after year. The picture called "Indian Summer" is as widely known as any cartoon ever published. For these reasons, HYGEIA welcomes the opportunity afforded it by the publishers of the Chicago *Tribune* to reprint on this page a cartoon drawn by Mr. McCutcheon in August, emphasizing one of the problems confronting the medical profession today. Doctors everywhere are saying that practice is holding its own or even increasing, yet collections are poor. It is proverbial that the doctor's bill is often the last to be paid. Many a physician is finding it difficult to maintain his standard of living and even, indeed, to keep the wolf from the door.

Mr. McCutcheon was inspired to make this cartoon through a letter, which he received from a physician, which recited the difficult status economically of many physicians today. The lesson that he would teach is one which all who have been benefited by medical attention might well heed. It is an interesting fact that letters received by Mr. McCutcheon immediately after the publication of the cartoon indicate that a considerable number of patients promptly took its lesson to heart.

HEART DISEASE—Then and Now

An Increasing Challenge

By PAUL D. WHITE

IN 1836, almost a hundred years ago, a certain Dr. John C. Williams, a resident of Nottingham, England, wrote as follows:

But it may be asked—does not disordered function though in itself of trivial import, become in the course of time positive disease? Will it not merge into, or insidiously produce positive disease of vital organs, especially of that important organ, the heart?

The experience of Auenbrugger, Corvisart, Esquirol, Hope, Forbes, and other pathological writers of equally unquestionable authority, warrant such a conclusion, which moreover, enables us to account for the alleged increase of diseases of the heart—an increase, perhaps, in some respects, more imaginary than real.

The accurate knowledge we have obtained during the last quarter of a century, of the best methods of detecting these diseases by means of Percussion and the use of the Stethoscope, have shown to us numbers of cases, the true nature of which, without the use of these means, never could be known. Allowing, however, that diseases of the heart have increased of late years, we have a clear and important explanation of the fact.

With the advance of civilization, the physical and moral system of man becomes more sensitive, and then the passions necessarily acquire a greater influence over the animal organization; the more, also, the passions are curbed, after being once strongly excited and exercised, the more baneful is their influence on the nervous system, until they are completely subdued.

For nearly fifty years Europe has been, in a greater or less degree, continually under the influence of political commotion of the most exciting kind. In the more civilized parts, states have been ever changing and unsteady in their foreign and domestic policy; commerce has been of the most fluctuating and speculative character; individual feelings have been powerfully called into exercise; and the passions, which fan into flame the morbid energies of the nervous system, have revelled in the luxury of gratification—subject again to the depression which follows such indulgence.

When we reflect, therefore, on the powerful influence that mental emotions exercise over the action of the heart; on the changes effected, in this respect, by anger, hatred, and revenge—by love, joy, or sorrow—by avarice and ambition; when we credit our former assertion, that functional derangement will terminate in organic disease, and that this functional derangement is daily and hourly produced by the activity of these feelings; then we are bound to believe, that disorders of the circulation and the heart have increased of late years, and will still increase, in proportion as the nervous system is affected by the more frequent and ardent operation of the passions.

"We have no doubt," says the talented and learned Dr. James Johnson, "that the prevalence of Cardiac Diseases has arisen out of the moral and physical circumstances of modern times; and that the evil to which the flesh is heir, will every day vary with revolving aeras, per omnia secula seculorum." Corvisart informs us, that diseases of the heart were much more frequent during the horrible period of the French revolution, than in the usual calm of social life; and Testa states, that the same fact attracted notice during the perilous period of the civil wars of Italy. Were I disposed to take a medico-political view of this subject, I should dilate on the influence of oppression and tyranny; on insubordination and independence; I should dwell on the phantom called "Liberty," and the irregular distribution of her fancied privileges; I should point out, that while she is allowed to hover over the inhabitants of some places, in others, her true spirit is abused by the licensed outrages committed in her name. But as such a digression is not here requisite, I shall confine myself to a strictly professional view of the subject.

A challenge then and a challenge now. The questions that Williams raised a hundred years ago are just as pointed now as they were then. In three important particulars absolutely no progress has been made in the past century: In the first place man has been going through even more troublous times with wars and revolutions, misery and crime, mad haste and recklessness, all magnified by the very inventions of which we boast after this so-called century of progress—progress, indeed, and whither? Secondly, heart disease is everywhere about us in appalling frequency, seemingly far more evident than it was one hundred years ago. And thirdly, it is not even yet known for a certainty how far bad habits are responsible for the increase of heart disease, if increase there is. These are dark shadows from which we may now look toward the light, for fortunately, there is light if only we will use it.

The most hopeful aspects of heart disease, in the order of the progress that has been made, are (1) recognition or diagnosis, in which advance has been greatest; (2) treatment, and (3) prevention, in which only recently has any progress been begun.

Three hundred years ago medical science was still in the dark ages so far as the heart was concerned. In spite of anatomic and physiologic discoveries, such as that of the circulation of the blood by Harvey, heart disease in man during life was almost wholly unrecognized. Even in the body after death, but little curiosity was shown; autopsies were rare and still tabooed. A few bold pioneers during the next

In 1819, René Théophile Hyacinthe Laennec presented to the world that important invention, the stethoscope.

century made postmortem examinations and discovered various abnormalities of the heart, such as dilatation of the chambers, hypertrophy of the muscle, valvular disease and pericarditis. These pioneers paved the way for what was to come, but they knew little or nothing of the causes of heart disease or of its recognition or treatment. Dropsy from heart failure was, for example, wrongly attributed to bad blood; and the treatment of heart symptoms, like that of all other symptoms, consisted mostly of bleeding, cupping, purging, and the administration of distasteful and complex mixtures of plants and parts of animals.

Light Begins to Glimmer

Two hundred years ago there were glimmers of light here and there. Men were beginning to connect certain things like shortness of breath and sudden death with diseases of the heart found after death. Two writers published books on the heart and circulation in which several chapters were devoted to disease, particularly, of course, to lesions found in the heart after death, since as yet there were no special methods of study during life except that of observation of symptoms and signs elicited by simple questioning, inspection and palpation. The two pioneers whose books on heart disease led the way were Lancisi of Rome, whose volume was published in 1728, and Senac of Paris, whose two volumes were issued in 1749. Twelve years after the appearance of Senac's textbook, came the first of a notable series of discoveries which completely revolutionized the practice of medicine. In 1761, Auenbrugger of Vienna introduced percussion of the chest as an important method of determining the size of the heart. Seven years later, Heberden of London described the vitally important condition angina pectoris and gave it its name. In 1785, Withering of Birmingham, England, gave an excellent account of the use of foxglove, or digitalis, and finally, in 1819, Laennec of Brittany and Paris presented to the world the stethoscope, which has undoubtedly been the one most important step in the progress of the study of heart disease.

One hundred years ago, therefore, great strides had been made in the recognition and to a less extent in the treatment of heart disease, and these strides are well mirrored in the excellent book on the heart by James Hope of Edinburgh, published in 1832. However, the advance had only begun, and doubtless more than half of all cases in which there were important degrees of heart disease went unrecognized or incorrectly diagnosed. Treatment was beginning to be released from the shackles of the preceding centuries; therapeutic nihilism was appearing, and wholesale bleeding, cupping, purging and dosing were becoming less popular. Another half century or more elapsed, however, before the next notable advance was made in the study of heart disease, although steady and fundamentally important progress was going on in the physiologic laboratories throughout the world.

Three Important Discoveries Are Made

In the last decade of the nineteenth century and the first of the twentieth came three discoveries of great importance for the recognition of heart disease. In 1895, Roentgen of Germany announced the x-rays; soon thereafter an Italian, Riva-Rocci, introduced a practicable instrument to measure blood pressure, and in 1903, Einthoven of Leyden, Holland, invented the delicate string galvanometer by means of which the electrical activity of the heart muscle may be recorded accurately and hidden defects often of great importance may be discovered. From the application of these three discoveries in the past forty years as well as from the more intensive and accurate use of methods previously introduced, the progress in recognition of heart disease has been rapid and fruitful. There is far less guess work than there was a generation ago; in fact it is a rare case of important heart disease that now escapes diagnosis if it is carefully studied. Minor and unimportant degrees of trouble may not be recognized even yet, but perhaps it is just as well, unless they happen to be of the kind that progresses seriously. To overemphasize slight defects is as bad as to miss lesions that should be diagnosed.

In the last twenty years, probably the greatest advance has come in the study of heart disease as the result of concentration on the subject by many workers. Here specialism has borne a rich harvest rapidly through the practical application of all the various methods of study, the dissemination of knowledge, the solution of many unsolved problems, and the recognition of others still to be solved. The United States has led in this most recent advance. Among the pioneers contributing milestones in this progress are Dr. James B. Herrick of Chicago and Dr. Richard Cabot of Boston. In 1912 Dr. Herrick clearly recognized in life for the first time one of the most common and important of all heart diseases, coronary thrombosis, which consists of the blocking off by a blood clot of one of the vital little arteries supplying the heart muscle. In 1914 Dr. Cabot advised the diagnosis of heart disease according to cause and thereby not only set an important precedent but opened up clearly the path which has led to the recognition of the most important of all aspects of heart disease; namely, its prevention.

Diagnosis and Treatment Now Well Developed

Before proceeding to a consideration of the prevention of heart disease, it is well to survey for a moment the present status of the diagnosis and treatment of heart disease, both of which are now fairly well developed. When a patient goes to a doctor, complaining of shortness of breath, palpitation, or pain in the region of the heart, all of which may or may not mean that there is heart disease, the first step is the careful analysis of these symptoms. The patient's story is of prime importance and generally holds the key to the problem itself. A knowledge of the patient's family and environment is often quite as important as any other factor; and that is the phase of the study in which the family physician has an advantage over the specialist and in which there is need of the closest cooperation. Strange as it may seem, even this most ancient and seemingly simple method of study, namely history-taking, has been developed to a fine art in recent years; it was often grossly neglected years ago.

The history-taking is followed by the physical examination, including the use of the stethoscope and the blood pressure instrument. No further study of the patient may be needed; but if the diagnosis is in doubt or if complete examination is desired, x-ray study, electrocardiography and occasionally other laboratory tests are made. It is important to note, however, that such laboratory examinations are generally simply accessory or supplementary and are never to be relied on alone; they are hopelessly incomplete. What further important methods of examination the future holds cannot be prophesied.

Modern treatment of heart disease has become rational and is often extremely effective. It is of prime importance to treat the causes of such disease when these are recognizable and open to attack. Unfortunately in many cases doctors are helpless. In discussing the prevention of heart disease I shall point out what can and what cannot be done in combating the causes. At present, physicians are better able to treat heart weakness when it comes than to prevent it from coming. This is undoubtedly due to the overemphasis which has been laid for generations on heart failure. To treat heart failure is, to be sure, of great importance both in giving relief from misery and in prolonging life; but to prevent or to delay the appearance of heart failure when it is known that heart disease is present is far more important. The old fatalistic points of view about heart disease are wrong. When heart failure appears, even with dropsy, death need not follow at once; proper treatment usually prolongs life, sometimes for years, and also it usually makes that prolonged life reasonably comfortable. Such proper treatment has only in recent years been widely introduced through contributions to progress from several different countries. It includes especially the scientific use of rest, absolute at first, with sedative medicines and a special heart-bed if necessary, the invaluable foxglove (digitalis) leaves in proper dosage, and powerful diuretic medicines which have been more and more perfected. Furthermore, it is possible and decidedly worth while to delay or to prevent altogether heart failure in persons who have heart disease; this can usually be done by the adoption of carefully outlined plans of life, even when such an ominous condition as angina pectoris is present. I am certain that death and invalidism can often be postponed in such cases for years although one must admit that there are exceptions.

Cardiac Surgery Has Made Great Advances

Before leaving the subject of treatment I must not fail to mention the advance in cardiac surgery in the last fifteen years. Wounds of the heart have frequently been repaired with complete success, and even more spectacular has been the restoration to normal life by skilful surgery of a number of cardiac cripples whose hearts have been released from rigid fibrous and calcareous shells of thickened infected pericardium. Drainage of acute purulent pericarditis has saved some lives acutely threatened. Moreover, by the alcohol injection or resection of nerves, relief from distressing pain has been afforded in the last decade to a good many individuals with intractable angina pectoris or oppression from aneurysms. The surgical correction of damaged valves has also been boldly attempted but as yet without success.

And now, last but most important of all, I come to the prevention of heart disease, the ultimate aim. Obviously of prime importance

is an analysis of the various causes of heart disease and of the possibility of control of these various causes. A dozen causes are now clearly recognized. One hundred years ago, only two or three of these were even suspected. That much progress at least has been made. The difficulty lies, however, in the fact that although most of the causative factors back of heart disease are clearly recognized, the fundamental nature of the majority of these factors is still unknown, and preventive measures cannot as yet be satisfactorily applied. Gradually, knowledge is deepening, however, and great advances may be expected in the coming generation; it is in this field, rather than in the recognition and treatment of heart disease, that the next great strides may be anticipated.

"Captain of the Men of Death"

To cut down presenile morbidity from heart disease is the present ambition of the specialist in cardiac diseases; for it is indeed a great waste of life when children and young and middle aged adults are crippled and killed by heart disease, which now ranks first in the United States as a cause of death and is responsible for crippling, of greater or less degree, in about 1 per cent of children and 2 per cent of adults throughout the northern part of the country.

Now let us turn aside for a few minutes and watch a group of individuals pass on their way to seek medical advice. We shall catch a glimpse of patients crippled from youth to old age by the most important types of heart disease. There will be seven, representing as it were the seven ages of man. Less important causes of heart disease, of which there are several, and conditions such as nervous prostration that produce symptoms like those of heart disease will not be discussed. Nor will consideration be given to that small percentage of cases of heart disease of unknown cause, although therein lies an opportunity for the inquisitive student of the future.

A little girl, 7 years old, who was a "blue" baby and is still blue or cyanotic when she exercises or is excited, is being taken to the doctor. He finds changes in the heart which began before she was born; hers is a case of congenital heart disease. The doctor is helpless except to point out ways to protect her from strain. He cannot correct the deformity, which is more serious than congenital hip disease or other trouble dating from birth, but he need not sentence her to utter invalidism. She may lead a happy and a useful life, short though it possibly may be. Fortunately congenital defects of the heart make up only 2 per cent of the total number of cases of heart disease; I say fortunately because of early crippling that often comes and because the trouble is neither correctable nor as yet preventable. Concentration on the problems of genetics may some day throw light into this dark corner.

A boy, aged 16, comes next along the path, to learn if he may be allowed to play football. The doctor finds that the valves of the heart have been considerably damaged as the result of rheumatic fever which attacked the boy when he was 8 years old and again when he was 11. Sadly the doctor advises that his exercise must be limited, although with care to avoid infections and excessive strain of any sort he may live a long and happy life. Nevertheless, he is a cardiac cripple; and it is young people like this, both male and female, that outnumber in the North those with all other types of heart disease. Rheumatic heart disease constitutes almost 40 per cent of all cardiac ailments. This fact presents squarely one of the greatest problems of the day in preventive medicine. Certain clues to the answer have been discovered, but there is still much to be learned. The first clue is the influence of climate. It is well known now that acute rheumatism is rare in the tropics and common in the north temperate zone. The second clue is found in the influence of healthful living conditions. Valvular heart disease is least common where such conditions are best. The third clue lies in the influence of family susceptibility and contagion. Rheumatic infections commonly attack more than one member of a family. The fourth clue is the influence of acute respiratory infections, especially with the presence of the hemolytic streptococcus. These are some of the exciting factors of acute rheumatic heart disease. Fortunately many persons in this country and abroad are at work on these and other clues, and new advances undoubtedly will be made.

The Fight Continues Until Success Is Attained

A young woman, 23 years old, visits the doctor to obtain relief from a spell of weakness, loss of appetite and chilliness with some fever dating back a few weeks. On examination the physician finds the presence of old heart trouble, probably rheumatic, perhaps congenital. He finds other signs, however, including enlargement of the spleen, clubbing of the finger tips, and small hemorrhagic spots in the skin, which cause him to shake his head sadly, for this poor girl's heart has become infected in some way, as yet poorly understood, by Streptococcus viridans, a germ which has invaded the blood stream and which the physician can extract from it in most cases by culture. Although the cause of this fearful disease, called subacute bacterial, or malignant, endocarditis, is known, physicians are still helpless to combat it. Many attacks from many directions have been launched, as yet with complete failure, but new attacks will be constantly made until success is attained. Only about 3 per cent of the victims recover. Fortunately *(Continued on page 950)*

A Housewife Looks at the Committee on Foods

By Doris W. McCray

Introduction:

I AM a home maker. My entire interest is in my family, its health and happiness. I read, study and work toward that end. Health is necessary to happiness now and in the future. Without proper food, there cannot be health; food is a prime essential. Meals are planned to be well balanced, to appeal to the appetite and to give sufficient nourishment. Marketing is done carefully. I read food advertisements because they help me to decide which foods will best suit my plans and my budget.

When I first noticed in an advertisement the seal, "Accepted, American Medical Association, Committee on Foods," I wondered just what it meant, for I surmised that it might mean a great deal to me personally. When a recognized scientific organization of the magnitude of the American Medical Association is concerning itself with my problems and making it possible for me to know what foods are good for my family, I want to derive every advantage from their work. Why does this Seal of Acceptance appear on so many packages on the grocer's shelf? Why does it not appear on others? What does it mean, and what can it mean to my own family?

What types of persons constitute this Committee on Foods? How are they qualified to deal with this important work and to carry on investigations and render decisions which will help me decide what to buy in order to make my kitchen safe for my family? What decisions have they made, and what have they accomplished?

As I have read advertisements recently, I have noticed that they seem more sane and more reasonable, with less blatant claims of health-giving properties and mystic vitalizing effects. Working with advertisers to present to the public a truthful picture of the food is an important task of the Committee on Foods. While the federal Food and Drugs Act and other legislation refer to labeling of packages, they do not control statements made in printed advertising.

According to the Committee on Foods, the Seal of Acceptance on a specific food article assures the purchaser of the following facts:

"(*a*) That the food article, its label, all related published or displayed advertising copy of any nature, statement of physical and chemical composition, process of manufacture, and other pertinent required information, have been submitted to the Committee for its consideration.

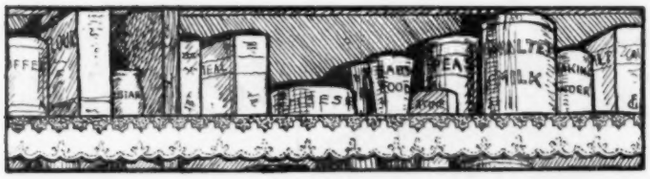
"(*b*) That all 'health' or nutrition claims—either specific or by inference, appearing on package label, in any advertising copy, or published or displayed in any other form—harmonize and are in accord with the evidence submitted as to the chemical and biologic values of the finished product on the market.

"(*c*) That evidence has been submitted that the food product is neither adulterated nor misbranded under the terms and provisions of the federal Food and Drugs Act and other federal food statutes.

"(*d*) That claims, other than those of a 'health' or nutritional nature, offered in the manner mentioned under (*b*) are not self evidently or grossly exaggerated, false, misleading or deceptive."

In my own words, this seal on a package of food or an advertisement of it assures me that I can believe what the advertiser is telling me and that a qualified group of doctors considers the statements in accord with present knowledge of nutrition.

I distinctly remember a lecture on the theme "Don't believe what you read," which was given by Dr. Agnes Fay Morgan while I was studying nutrition and dietetics in the University of Cali-



fornia. It is only human nature to give credence to the printed page. Seeing a statement printed, one naturally presumes that it is true. But who has checked on the veracity of that statement? What higher authority stands back of it? Perhaps the biggest lesson learned under Dr. Morgan was that "a fact yesterday may not be a fact today or tomorrow." The scientific world is fast changing. Whereas advertisers used to exploit foods as tonic and building health, the public is now informed that the foods are rich in vitamins. Being an inquisitive public, we demand to know what vitamins are there, how the advertisers know of their presence, and whether the food is an excellent, good or fair source of each vitamin. We are not satisfied with vague, indefinite claims.

The Committee on Foods considers that "statements or claims in food advertising with technical, scientific, nutritional, physiologic or 'health' significance shall be carefully phrased so as to be in complete accord with established knowledge and authoritative opinion, and shall be free from misleading or incorrect popular implications or interpretations."

While a food may be advertised as "one of the best," "one of the richest" or "an ideal," the Committee does not consider it permissible to state that the food is "the best," "the richest" or "the ideal" unless such a statement can be proved as a fact. Such statements must not be deceptive or misleading.

Often one sees such vague statements as "recommended by physicians, medical and health authorities, nurses, dietitians, hospitals and sanatoriums." These vague generalities are not permitted in the advertising of foods allowed to use the seal, since such statements are misleading; they give the impression that such professions or institutions as bodies have investigated the product and passed professional judgment on it, which is not true to fact. However, proper, correct, explicit statements of special uses for, or values of, individual foods, or statements based on special studies by recognized authorities are allowed.

The term health food is vague, misleading and meaningless, but statements of well established nutritional or physiologic values of foods are permissible.

We Americans are a nation of health seekers. While we do not look for a fountain of eternal youth, we search the shelves of our favorite grocer for foods which will give us pep, strength and the superpower which we want, to enable us to finish our work with enjoyment. We want the label to tell us what we can find in the foods, in terms which we can understand. We do not want to buy something with a fancy name without having some idea of what it contains, and what can be expected of it. We want some assurance that the claims made for it are grounded in fact.

When we buy tomato juice, we naturally expect that it will be equivalent in vitamin content to raw tomatoes. If the pressing, packing and processing have greatly reduced the vitamin content, in all fairness to ourselves we want to be told. We may try to drink twice as much in order to get half as many vitamins! On the other hand, we may decide to pay a higher price for the brand that states boldly and truthfully on the label that the vitamin content is practically equivalent to that of fresh raw tomatoes. If we pay more for a product, we want to know why. Often the product is actually worth a great many times more, for the food is grown under conditions which will assure greater vitamin content; it is handled in such a way as to be clean and sanitary; it is not exposed to air or to excessive heat which would destroy the vitamins, and from a nutrition standpoint it is a superior product. Yet our own delicate sense of taste and smell, our own judgment of color, body and clearness would not show us sufficient superiority of one tomato juice over another to indicate any choice.

In some cases it is necessary to feed animals under carefully controlled conditions, in order to determine the actual vitamin content of the food as it is placed on the market. This is particularly important with baby foods. I remember paying a price which was entirely out of proportion to our meager income for a special kind of sugar for modifying the baby's milk. The best baby doctor in our town recommended it, and he certainly knew what he was talking about, for it agreed with the baby perfectly, and feeding our baby was merely a matter of following carefully the doctor's orders. The money we spent on the doctor and on the food had to come out of our "pleasure" column in the family budget and part of it out of our own scanty food allowance, but it was well worth it, for we were helping the fragile baby to grow into a normal child.

The Committee on Foods considers it unwise for a manufacturer of food for babies to tell mothers exactly how to use it, although it is permissible to tell how to mix the food. The reason for this is that no one but a competent physician who is actually examining the baby carefully can tell just how much or what kind of food will be best, and his personal judgment of the individual child is often a matter of life or death during the infant's first year.

The work of the Committee on Foods has not grown "just like Topsy"; it did not spring into existence with all the policies planned finally.

It grew out of the Council on Pharmacy and Chemistry of the American Medical Association, which has been passing on drugs and remedies for more than a quarter of a century and which passes on those foods for which medicinal claims are made.

Many problems come up for consideration which require the superior judgment of master minds, and the personnel of the Committee is such that these men are qualified to pass on questions requiring medical training and familiarity with recent, authoritative scientific works. How much iodine, for instance, is needed in a salt intended for general table use, and how much would be dangerous for such use? Can such salt be used as a cure or merely as a preventive for goiter? The Committee decided that an "accepted" iodized salt shall contain 1 part of sodium or potassium iodide per 5,000 parts of salt (approximately 160 parts of iodine per million parts of salt), or the iodine equivalent of any other suitable iodine compound. Iodized salt containing more than this quantity is considered a medicament not to be advertised to the public for table and cooking purposes. Such fortification of table salt with an iodine compound is now considered good practice.

Experiments and research are constantly being carried on in the best interests of public health, and the Committee reserves the right to withdraw its acceptance and permission to use the seal, if later evidence shows that a food should not carry the seal. It is also required that new advertising material shall be submitted from time to time. The rules are strict, and one may feel assured that the Committee has really investigated a product to see that the advertising represents the facts.

The members of the Committee have done notable work and are well recognized in medical and scientific circles. At the present time the Committee includes:

Morris Fishbein, M.D., Editor of HYGEIA and *The Journal of the American Medical Association*, Chicago, Chairman.

E. M. Bailey, Ph.D., Chemist in Charge, Analytical Laboratory, Connecticut Agricultural Experiment Station, New Haven, Conn.

Julius H. Hess, M.D., Professor of Pediatrics, University of Illinois School of Medicine, Chicago.

Edwin O. Jordan, Ph.D., Sc.D., Professor of Bacteriology, University of Chicago.

Philip C. Jeans, M.D., Professor of Pediatrics, University of Iowa School of Medicine, Iowa City.

"What shall I order today?" is the question that confronts the housewife each morning. And the decision is a momentous one, for it affects the welfare of her family. She wants to fill her cupboard with pure, nutritious foods. What shall she put in it?

James S. McLester, M.D., Professor of Medicine, University of Alabama, Birmingham.

Lafayette B. Mendel, Ph.D., Sc.D., Professor of Physiological Chemistry, Yale University, New Haven, Conn.

Grover F. Powers, M.D., Professor of Pediatrics, Yale University, New Haven, Conn.

Mary Swartz Rose, Ph.D., Professor of Nutrition, Teachers College, Columbia University, New York City.

Russell M. Wilder, Ph.D., M.D., Professor of Medicine, Mayo Foundation, Mayo Clinic, Rochester, Minn.

Raymond Hertwig, B.S., Secretary of the Committee, American Medical Association, Chicago.

Certainly we can have faith in the judgment, integrity and scientific background of a committee consisting of these members. We can look to them for help in selecting food for our families. They are working with advertisers so information on foods may be presented more clearly, concisely and truthfully. They are checking up to eliminate old-fashioned ideas from advertising. It was once believed, for instance, that gelatin added to milk made it easier for the baby or adult to digest. Such claims are not now permissible, since there is no satisfactory evidence that gelatin actually does increase the digestibility of milk or milk prod-

ucts. While there was some doubt as to the advisability of giving fruits containing sulphur dioxide to infants there is no authentic evidence that small quantities of sulphur dioxide are objectionable in fruit products especially prepared for infants or children, provided the quantity does not exceed that compatible with good manufacturing practice in the preparation of the dried fruit used. Dried peaches, as commonly prepared for the market, are also considered wholesome for adults.

My neighbor told me that dried peaches were bleached with sulphur dioxide, which was harmful, and that she never bought them. I could not remember that such a warning had been given in nutrition classes or that I had read any scientific report condemning dried peaches, so I looked into the matter and found that it had been the subject of considerable experimental work at the University of California. As a result of my investigations, I have continued to feed my family the delicious jam made of dried peaches, the upside-down cake and the frozen parfait which were favorites on our menus.

A human being can consume only a limited number of calories each day. The selection of the kind of food and the brand is tremendously important. The preparation of the food is also a matter of importance, for care must be taken to conserve the mineral and vitamin content. Both minerals and water-soluble vitamins are thrown down the sink when the water is poured from boiled potatoes. It should be saved for soup, or the potatoes should be cooked with practically no water in a kettle having a heavy bottom and tight cover.

Making out the grocery list, naming the brands desired, has more than usual significance to me and my family since I have become acquainted with the work of the American Medical Association.

Certain foods are considered staples because they are always needed: flour, sugar, spices, cereals, cornstarch and syrup are ingredients commonly called for in recipes. Certain foods are needed seasonally, such as soup in cold weather and gelatin for jellied entrées in summer. While menus vary, the supplies on hand are much the same all year. Fancy peas, corn and many other vegetables are needed for guests, and less expensive grades may be bought for everyday use. Canned fruits, dried fruits, fruit cocktail for breakfast and fruit juice for summer refreshment are required. Sieved vegetables, fruit pulp and juice, and cereals are necessary for the small child. Syrup and molasses are indispensable for cooking; and syrup may be needed to add to baby's formula according to the doctor's instructions. Bread and cheese should be bought from day to day. Surely the selection of these foods in the home should never be considered in a superficial manner. Advertising must be carefully studied and information gathered to make the homemaker a better food buyer.

Food is essential to health; yet food alone cannot take the place of a doctor, especially when he is needed. The dietitian works under the doctor's directions, battling to bring back health. The homemaker works, with the guidance of published works on food in health, to maintain strength and vigor, to build strong bodies.

To many persons, flour is just flour. But to one who cooks, there is flour which makes superb cakes but is too expensive for rolls. Every cook has her own favorite biscuit flour, though others may be as good. There is the flour that never gives good results, a bargain flour advertised for its price. There is the flour that the neighbor declares is best for everything, and there is the flour that seems to be a popular local favorite when one moves into a new community. One delves into flour and discovers that it contains starch and gluten; that it has weight, body and color; that it is a valuable energy food to be used in all normal diets, and that the bran and the brown outer coatings of the wheat are not as completely digested as the white inner part of the wheat kernel, but that they are laxative in their effect. White flour and white bread are generally liked; brown flour and brown bread are good if they are rightly made. Bran and roughage foods have a laxative effect, and as such have value to the normal person, but "health" claims are no more warranted for bran than for other foods.

I am anxious to know precisely what prominent medical men think of brown breads—whole wheat, entire wheat and graham, which they consider synonymous. Some members of my family do not seem to enjoy them daily, and the assurance that I need not force them to eat coarse breads was indeed heartening to me and should be to every other conscientious housewife.

Deciding what to eat each morning is a serious problem. Housewives in gay breakfast nooks, at mahogany desks, writing directions for servants, in dingy kitchens looking out across small gardens, in neat little cottages, cheery and colorful, are constantly deciding the momentous question: What shall I buy and how shall I prepare it? By placing its Seal of Acceptance on certain brands, the Committee on Foods of the American Medical Association helps the housewife to decide some of her biggest problems; it aids her in getting excellent nutritional values when she markets and in buying the foods that are best for her family; it assures her that she is purchasing a product for which the advertising claims are not exaggerated; in short, it helps her to "do her job" in the most efficient manner. For the benefit of housewives, the findings of the Committee on Foods will be outlined each month in this department.

"Worm Powders"

By
R. R. ROGERS

An Article in which It Is Shown that Ignorance Is Not Always Bliss

"Mother Sanford says Jimmie's father was just like this when he was a boy."

"YES, Mother Sanford says Jimmie's father was just like this when he was a boy, and 'worm medicine' cured him; so I got some 'worm powders' for Jimmie. Between us, his father and I managed to get them all down him, but really I can't see any improvement."

"What symptoms made you think Jimmie needed worm medicine?" I asked.

"Well, he grits his teeth in his sleep, Doctor, and seems nervous. Sometimes he picks his nose, and Mother Sanford says that's a sure sign of worms. Then, in the mornings, his breath is so heavy and unpleasant. Yet I can't think anything serious ails him, for he plays outdoors all day and seems pretty well in other ways."

This conversation, which occurred in my office a few months ago, concerned a thin high-strung boy of 6, who was finding it difficult to sit still while his mother told me his story. The general impression I formed as I watched him fidget about in his chair, frequently getting up for interested excursions about my office until he was brought reluctantly back to his seat by his mother's nervous reprimand, was that of an organically sound but abnormally active lad, an excellent example of the "driving American type," plus an overtaut condition of the nervous system arising from an unknown cause.

Misguided Efforts May Have Disastrous Results

So many youngsters between the ages of 3 and 10, who are brought into doctors' offices because they present one of the variations of this clinical picture, might be spared the abuse of "hit or miss" home treatment if parents had a more accurate notion of what an irritated nervous system can do to a child. The amount of so-called worm medicine, cathartics and appetizers these youngsters have had poured into them before a diagnosis is made is sometimes appalling! Such well meant but misguided efforts to cure symptoms without bothering with their cause belong to a former generation in medicine. Boys and girls of today deserve wiser handling.

Further history-taking in Jimmie's case proceeded after he had been shown the sand table in another room, where he could amuse himself without being exposed to the humiliation of hearing his peculiarities and physical symptoms frankly discussed by his elders. The emotional reactions resulting from such thoughtless treatment are anything but desirable for a sensitive youngster—all the more so because pride makes him keep them to himself.

Jimmie's Family Diagnoses His Case

These are the additional facts Mrs. Sanford gave me regarding the history of Jimmie's present trouble:

He frequently complained of "leg ache" below the knees, particularly at night, after playing hard all day, or if the weather was damp. His mother had often had to go to his room during the evening and give his legs a thorough rubbing before he could get to sleep. His grandmother's explanation of this symptom was that they were "growing pains."

His sleep was seldom quiet and restful. When his dad had slept with him recently, he reported that Jimmie was "all over the bed" within the first half-hour after he fell asleep and that he was muttering and talking during the early part of the night. Occasionally he had had genuine nightmares, after which he awoke terribly

frightened and excited. Mrs. Sanford smilingly related how they had been awakened in the dead of night, a few weeks before, by piercing screams from Jimmie's room. His father rushed in and found the lad on the floor in the middle of the room, spinning around like a top, and sputtering wildly. When finally awakened, Jimmie wildly explained: "You see, a horse got in bed with me, and his leg came off!" Such disturbing dreams were formerly called night terrors.

Another of Jimmie's symptoms of which his mother bitterly complained had not only been a source of great annoyance and concern to her but had added considerably to the burden of her day's work. She told me that he had learned good bladder control before he was 2 years old and that until a few months ago he had had a dry bed each morning. At that time, however, bed-wetting had recurred; and in spite of a great deal of scolding, some punishment and even the offering of rewards, he had not made any progress in conquering this distressing habit. His mother was at a loss to explain the change, especially since Jimmie himself had seemed so distressed and ashamed the first few times it occurred. She was now seriously concerned over his recently developed tendency to pay little heed to the extra work he was causing her, and she was afraid that he might eventually come to take it quite as a matter of course.

In passing, it should be said that there are several organic causes of bed-wetting which may require careful study to differentiate them from this more common, functional type. Even without an organic basis, however, the habit may prove an extremely stubborn one to conquer.

Jimmie Becomes a Food Rebel

I needed only to ask about Jimmie's appetite to realize that here was a sore spot in the family ménage. With a gesture eloquent of utter despair, Mrs. Sanford admitted that as a manly little eater of the foods his diet should include, Jimmie was "a total loss."

"Of course he'll eat sweet things without coaxing—as much as we'll let him have—but if you try to get any green vegetables or cooked cereal down that child, it's a regular battle! He has to be coaxed and urged, threatened and bribed, until, unless we simply drop the matter, our mealtimes, Doctor, are about as chummy as an international conference on disarmament. Why, John said to me last night, after Jimmie was tucked in bed, that it actually made him sick to watch that poor boy try to eat carrots. You know, Doctor, I think the lad really wants to eat them to please us, but it seems to be next to impossible for him to get down more than a taste of any vegetable. I've tried all the different kinds I can think of, for you know even grown-ups don't like some vegetables; but they're all the same to Jimmie. He just doesn't want any of them; and with cereals he's almost as bad. When his dad tells him he won't get any dessert till his carrots are gone, he'll go after them pretty manfully, but sometimes before he's had three mouthfuls I've seen him actually gag over them. Now what can one do when a child acts like that?"

I could easily visualize the picture at the Sanford dining-table during one of these trying ordeals. How much mental suffering and family friction must occur from this cause in hundreds of American homes, merely because so many parents do not know that, in the majority of cases, there is something physically wrong with a child who shows this symptom! I felt sincerely sorry for the whole Sanford family, most of all for Jimmie; but I was glad to be able to reassure the anxious mother, since I felt confident we should find a simple but real cause for his "finicky" appetite. Because he is seldom able to describe his physical sensations, a child is often accused of being spoiled or finicky when he is really nauseated.

Nausea May Arise from Many Causes

Many of these youngsters, when food confronts them, express the state of affairs more truly than they know when they say, after a few mouthfuls, "Mother I'm full; I can't eat any more." In many cases they are, I am convinced, telling the literal truth. They are "full" for the reason that their stomachs do not empty in the normal time. Most physiologists agree that the proper secretion of the juices concerned in stomach digestion is inhibited by anything which, like an infection in the body, disturbs the functioning of the nervous system. Even at the breakfast-table, when he has not had food for twelve hours or more, such a child may not have any appetite. In fact he may feel and act slightly nauseated when food is set before him. This nausea is sometimes merely a proof of the unbalanced state of his nervous system; but in other cases it is the result of swallowing small amounts of pus during the night.

As I was about to make inquiry along that line, Mrs. Sanford brought out another point in Jimmie's story which had been partly responsible for their visit to my office.

"You see, Doctor, we are almost sure that Jimmie has a weak digestion, inherited from his dad. Every few weeks he has an attack of vomiting which may last several days. Mother Sanford calls them bilious spells. She says John had this identical thing all through his childhood, and their doctor always said his liver was bad. Why, with this last spell of Jimmie's, he vomited everything he swallowed for three days. I get awfully worried! The poor child gets so weak, and he begs continually for water; yet he can't keep it down two minutes when I give it to him. By that time he is usually so dopey that he sleeps almost constantly. Mother

says I need not be alarmed, for John outgrew these attacks entirely by the time he was 15; but they frighten me just the same. She always thinks Jimmie needs castor oil when they are coming on, and I used to make him take a good big dose of it as soon as he complained of headache or I noticed he had a coated tongue, but I've found by experience that it doesn't work. He usually vomits the oil anyway, and even when he keeps it down and has good results, it doesn't seem to postpone the attack a bit. It's no wonder the lad is thin, for lately he hardly gets over one of these spells and picks up a little, when another one hits him. I can't understand why they come so frequently now. Do you suppose I give him the wrong diet, Doctor, or do you think he just inherited a weak stomach?"

Tears Do Not Always Denote Tantrums

"Neither one, I should judge from what you have already told me, Mrs. Sanford; but I can give you a definite answer as soon as I've looked the boy over carefully. Before I do that, I have one more question to ask you. What about his disposition? Has it changed any during the past few months?"

"Has it changed? That doesn't half describe it; he's an entirely different boy! Why, Jimmie used to have a good disposition, if I do say it myself. As a small youngster he was so sunny and good-natured, it was a joy to have him playing around the house. But how different now! It's just during the past six or eight months that he's grown so contrary. He seems fairly possessed to do everything I tell him not to do, and he's on the verge of tears most of the day, too; he cries over the littlest things lately, things he would scarcely have noticed a year ago. When he plays with other children he insists on having his own way all the time, so it's no wonder they don't enjoy playing with him. I've racked my brain trying to discover what's come over the boy, for he used to be an easy child to manage. His whole attitude toward his dad and me seems to have changed. He's so contrary now that he fights a thing, if he knows we want him to do it, even though he was planning it himself a moment before.

"Oh I know, Doctor, that you're thinking he's spoiled because he's an only child, but it isn't that, either. I've punished him, sometimes, until I'm actually ashamed of myself for using such antiquated methods, but it doesn't seem to do a particle of good; he is just as bad the next time. John and I were talking the matter over last evening, and we agreed that the boy is not himself most of the time lately. It's as if something has come over him that brings out all the bad traits he has and sort of snows under all the good ones. Do you suppose having worms could make a boy behave that way, Doctor?"

The Solution of Jimmie's Metamorphosis

I assured Mrs. Sanford that I did not believe it for a moment and suggested that we call in the lad and see what a thorough physical examination would reveal. Of course, after listening to such a typical history, I had a tentative diagnosis already in mind. It was plain enough, from such a story, that Jimmie's system was being consistently and severely poisoned in some way, and it was my job to find the source of the trouble. In this particular case, after a careful general examination had revealed nothing but the severe malnutrition which was inevitable under these circumstances, I came to his throat last, because that is the most "touchy" part of a child's anatomy to examine. I found a pair of ragged, badly diseased tonsils. Here, then, was the cause of most of Jimmie's symptoms.

I saw Jimmie with his father and mother at the football stadium, and it was really astonishing what a difference four months had made.

I had already made sure that the nasal sinuses were clear. Glands, immediately beneath the angle of each jaw, were easily felt, showing that Nature was constantly on the job, doing her best to keep the bacteria themselves out of the blood stream. The boy's tongue was coated and dry, as it always is in a mouth breather; and his breath was heavy and unpleasant. Again Mrs. Sanford spoke of this symptom, quoting his grandmother's dictum that it showed he had a "bad stomach," or did I think it was due to a "torpid liver?" I was glad to assure her that, in Jimmie's case, it was due to nothing in the world but his enlarged adenoids, with the resulting mouth breathing, plus the effect of the infected tonsil tissue, and that it would probably disappear when these factors were removed.

Foci May Harbor Infection Indefinitely

Let me add, lest the reader is heard rumbling to himself, "Here's another doctor 'gone daft' on tonsils," that this is but one of several sites in the child's body which, once infected, may harbor that infection indefinitely. Wherever it exists, such an area becomes a pus focus, steadily pouring into the blood stream bacterial toxins and waste materials derived locally from the dead tissues. In childhood these irritants launch their deadliest attacks on the nervous system; hence they often make themselves known by general symptoms, some of which may be far removed from the infected area. Abscessed roots of dead teeth are pus foci frequently encountered among children, especially when some of their temporary teeth, obviously decayed, have been left in place "because they'll soon be falling out anyway."

An infected nasal antrum is another possible source of chronic pus absorption. In my experience the most common reason why children do not always show the expected benefits from a tonsil and adenoid operation is that residual infection existing in one of the nasal sinuses continues to pour into the blood those toxins which are responsible for the picture I have described.

Pyelitis, an infection of the pelvis of the kidney, is, in girls, not infrequently responsible for these and other symptoms. In some cases, however, pyelitis is itself dependent on a pus focus elsewhere in the body and may resist all forms of treatment until that focus is removed.

Neither the parent nor the physician is justified in jumping to any conclusions as to the probable cause when a child presenting such a group of symptoms is brought for examination. A thorough, painstaking physical examination is the only road that will lead one out into the light of a sure conclusion as to what are the causative factors in any given case. With this point determined and with a knowledge of the child's general condition, it becomes entirely clear what form of treatment must be instituted. A pus focus which cannot be removed can at least be given adequate drainage, and the end-result is the same: the absorption stops, and Nature, now unhindered, begins her wonderful work of reparation. Thoughtful parents will not be satisfied with any form of treatment, whether medical or "drugless," which is not predicated on this all-important diagnostic step. A thorough search will, almost without exception, reveal a definite organic basis for this clinical picture when it occurs in childhood, and it is obviously a mistake to blame an ugly disposition, worms, or a weak digestion for symptoms such as Jimmie Sanford showed while still on intimate terms with his tonsils.

Jimmie Becomes a "Real Boy" Once More

Last week I saw Jimmie with his father and mother at the football stadium, and it was really astonishing what a difference four months had made. One had to look twice to be sure it was the same boy! As their seats were in the next section to mine, I went over "between halves" and had a chat with the parents, who told the usual enthusiastic story. Two weeks after those infected tonsils came out, Jimmie had begun eating, without being urged, everything served on his plate and then "coming back for seconds." His dad said that Jimmie's appetite was increasing "the depression" at their house. His nervousness and irritability have disappeared, and he sleeps "like a top." He has gained twelve pounds in the four months, and the dark circles under his eyes are gone entirely. Because I was especially interested in the point, I asked Mrs. Sanford about the bed-wetting. She said that had been the last symptom to improve, but with the help of carefully limiting his intake of fluids after 4 p. m., Jimmie has had a dry bed each morning for the past month.

"And if I keep it up for two more weeks, Dad's going to give me a brand-new bicycle," the lad interposed, his eyes alight with excitement.

Altogether, it seemed to me, the Sanfords looked and sounded like a real family once more.

TRUTH

By Adèle De Leeuw

Fear festers in the flesh of doubt,
Till the keen edge of certainty,
Like a surgeon's knife, flashingly,
Slits the wound to let the poison out.

He is courageous who can bear to feel
The cruel slash of Truth's merciful steel.

The Curse of the Fire Spirit

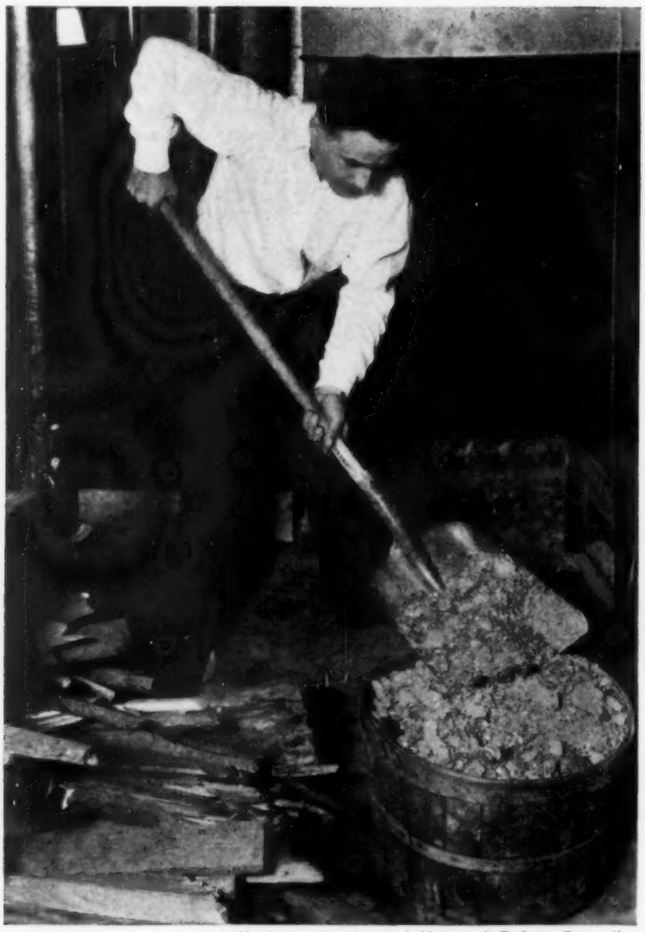
By CURTIS BILLINGS

Taking the form of a hare, Nanabozho, the mighty chieftain, craftily approached the hidden retreat of the Fire Spirit.

THOUSANDS, perhaps millions, of years ago the people of North America had no fire. In the summer this did not cause them any particular difficulty; but when the winter came, they huddled close together in their tepees and wigwams in a vain effort to keep warm. The food which they had stored became frozen, and they shivered as they tried to tear the hard, raw flesh of deer and buffalo with their teeth. Those were days of great suffering, and each spring would see the tribes and nations emerge from their camps decimated in numbers by the cruel rigors of the season.

Then the people heard about fire. Tales reached their ears of a spirit who lived far away in the woods in an almost inaccessible place surrounded by a thousand lakes (probably what is now Minnesota). Even in the dead of the severest winter this spirit could keep warm, could thaw snow for drinking water, could cook frozen meat until it was soft and succulent. The spirit was possessed of a miracle known as fire, and he was called the Fire Spirit. But like many spirits, the Fire Spirit was jealous and would give none of the fire to the freezing folk who inhabited the woods and plains. Hundreds of brave warriors, the strongest and bravest in the land, dared to intrude into the domain of the spirit to obtain some of the fire, but they never returned to their people.

This went on for centuries, and sometimes it seemed as though the race of men would die out in North America. This situation continued, in fact, until the days when Nanabozho became the chieftain of the most powerful nation. Nanabozho determined that he alone would secure a brand of the precious fire and bring it back for the benefit of all people. So, taking



All photos courtesy of National Safety Council

A single hot coal could easily set this wooden basket ablaze.

the form of a hare, he started out for the hidden retreat of the Fire Spirit.

So swiftly did Nanabozho run, so tirelessly did he weave in and around the thousand lakes, so stealthily and craftily did he approach that he appeared at the very edge of the camp of the Fire Spirit without being noticed. There, hiding behind a dense bush, he was dazzled by the brilliance of the fire, which leaped up to the tops of the highest trees in tremendous yellow and red flames. It seemed to him that the flames licked the very sky, and he trembled with fear. In the center of the fire he could see the outlines of a monster turning a huge spit on which a whole buffalo was broiling. He knew that this monster was the Fire Spirit, and he became more fearful than ever. Soon, however, the heat of the fire warmed him, and he became courageous once more. And the smell of the roasting meat made him ravenously hungry.

When the back of the spirit was turned to Nanabozho, he suddenly leaped to the edge of the fire, snatched a brand, turned, and darted back and around the first of the thousand lakes. But he was discovered. Before he had gone far, the spirit called after him a curse which so terrified Nanabozho that he almost dropped his precious brand into the largest and deepest of the lakes. The spirit cried: "The fire you have stolen will heat your wigwams and cook your venison; but it will also burn your camps and slay your people. You will know the vengeance of the Fire Spirit."

But Nanabozho was now safe. He took a firmer grip on the firebrand and hurried on his way. Soon he was back with his people. There was great rejoicing in the nation that day, and big fires were kindled from the brand. Nanabozho was declared to be the greatest of all chieftains, a hero even mightier in the eyes of many than Hiawatha. Nevertheless the curse of the Spirit was on the nation, for on that same festive night some of the people were careless of the fire; and it spread and laid waste a populous village, and forty warriors and eighty squaws and more than a hundred papooses died in the flames.

And many years later when white men came to North America, the curse of the Fire Spirit persisted. Sometimes it became terrible indeed. In 1871, two of the greatest fires in the history of the whole world took place. The first burned Chicago, killing 200 persons and destroying more than 17,000 buildings. The second was a forest fire in Wisconsin in which no fewer than 1,500 men, women and children lost their lives and many more were grievously injured. In 1906, a conflagration followed the earthquake in San Francisco which destroyed 4 square miles of the city and cost $350,000,000. The curse of the Fire Spirit is greater in the United States than in other countries. Of the fifty-one great-

Fires are frequently caused by spontaneous combustion occurring in basement rubbish heaps.

To start a fire with gasoline or kerosene is to take grave and unwarranted chances.

Three lives are at stake, for cleaning clothes indoors with naphtha, gasoline or benzine may lead to tragedy.

The housewife, hurrying to answer the telephone or doorbell, leaves a hot iron, "just for a minute."

est fires in modern times, thirty-four occurred in this country, and more than a third of all the dreadful theater holocausts which have taken place since the beginning of the nineteenth century occurred here.

One does not wonder that the President sets aside one week in each October as Fire Prevention Week.

While the evil Fire Spirit takes pride in great conflagrations, his chief delight is in burning people's homes; and fires of this kind cause more death, suffering and property destruction in the United States than do fires of any other kind. The Fire Spirit causes these conflagrations through the use of rubbish lying about the house, defective chimneys, combustible roofs, defective heating apparatus, matches, cigaret and cigar stubs, gasoline and kerosene, defective electrical equipment, and hot ashes. He likes best to burn rural and small town homes; next, houses in cities, and next, apartments, hotels and tenements. How the Fire Spirit laughs his horrible laugh and rubs his hands together when he sees people doing things that cause fires! How it pleases him to watch children playing with matches, women cleaning clothes with gasoline, men starting fires with gasoline or kerosene and building fires in broken or defective stoves and furnaces. He likes to think that half of all his victims are children.

But one circumstance makes the Fire Spirit sad. It is that men have studied fires and have found out some important things about them. They have found out that practically all of them can be prevented; they have found out how to prevent them, and they have found out what people should do in case of a fire. It makes the vile spirit groan when people find this information and stop being careless. But how can one prevent fire, and how can one avoid death and injury in case a fire gets a start?

To prevent fire a thorough inspection of every house should be made at least once a year, preferably in the fall. For that reason, Fire Prevention Week is observed at that time. The following outline will prove useful in this tour of inspection:

Heating equipment.—One of the most frequent causes of home fires is defective heating equipment, including stoves, furnaces, flues and chimneys. Careful examination of this equipment is an important safeguard. Check for chimney cracks, sooty or clogged chimneys and

flues, stoves and hot pipes near exposed woodwork or other combustible material.

Electric wiring and equipment.—In each room, examine all exposed wiring and extensions. Worn wires should be repaired or replaced. See that no extension cords are hung over other wires or over nails which will wear off the insulation. If cords must be hung up, make a loop of strong tape, hang it from the hook, and run the wire through the loop. Make sure that every member of the family realizes the importance of disconnecting completely the cords of appliances such as electric irons or toasters. Check the fuse box and install proper fuses, which are the safety valves of the electrical system. Wires and pennies should never be substituted for fuses. Warn all members of the family of the danger of using several appliances on one socket, for an electric circuit is designed to carry only a certain "load." See that lamp shades are held at a safe distance from electric light bulbs. Be sure that the radio antenna is fitted with lightning arrestors.

Kitchen.—Use safety matches and keep them in a safe place, not on top of the stove. Provide a metal or glass container for burned matches. Keep matches out of reach of small children, and teach older children the proper use of them. Oily or soiled cleaning cloths should be kept in a covered metal receptacle to avoid the danger of spontaneous combustion. For the greatest safety, however, they should be destroyed. A fire extinguisher in the kitchen is a small expense and a tremendous asset.

Basement.—Use metal cans for ashes and rubbish, and keep a metal cover on the rubbish can. Clear out all combustible rubbish, papers, packing and excelsior. If wood is stored in the basement, pile it neatly, far from the furnace but not under the stairs.

Closets and storage rooms.—Protect hot pipes which run through store-rooms. Beware of paint-soaked or oily working clothes. These should be cleaned or hung exposed to the air.

Attic.—Clean up rubbish and dispose of empty boxes, old mattresses and old furniture.

Garage.—Use metal cans with covers for waste and rags. Keep a can of sand or a carbon tetrachloride fire extinguisher in a convenient place. Use sand instead of sawdust or leaves on the floor to absorb oil drippings.

Even though these precautions will eliminate almost all fire hazards in the home, the wholly unexpected sometimes occurs, and it behooves everybody to know what to do for self protection in such an emergency.

Clothing fires are particularly common and dangerous. If your clothing is ablaze, do not run for water or anything else. Lie down on the floor at once and roll. Roll up in a rug or coat if possible, and the flames will be smothered. Running will only fan the flames. Never throw water on a grease fire. This only causes the burning grease to sputter and fly about the room, igniting anything combustible which it touches. Cover the pan with a large lid, and the flames will die; throw a coat or heavy cloth over it. A bucket of sand or a carbon tetrachloride extinguisher may be used effectively in kitchen fires. Always direct an extinguisher to the base of the flames.

What if you discover in the middle of the night that the house is on fire? Imagine that you are in bed in an upstairs room and that other persons are in other rooms. All the doors to these rooms are closed. You suddenly hear, smell or sense fire. Should you go to the window and call for help? Should you go to the window and, if possible, clamber down to the ground to safety? Or should you open the door of your room and awaken the others? Certainly not the last! Only too often has a well meaning person, throwing open the door of his room for the purpose of awakening the sleepers, fallen to the floor dead, killed by breathing highly heated air which enveloped him.

Most fires start in the basement and spread through the stairways and walls to the upper stories. There, if the doors are closed, the heated air builds up a pressure which is released the moment a door is opened. The person who opens the door is usually the immediate victim. Before opening a door the aroused person should safeguard himself against this danger. He should carefully feel the door. If it is hot, he should not open it but should seek a retreat through the window so that he can awaken the others from the outside. If it is cool, indicating that the air without is not hot, he should open it cautiously and, closing it after him, arouse the household. Remember that in the interior of a burning building the best air to breath is always near the floor.

Never jump from a high window if there is any other means of escape. Fire usually does not proceed so fast that there is no time for thought before taking a step so dangerous. Excited persons sometimes jump to their death when they are in no immediate danger.

The treatment for common burns is simple. Except for chemical burns, over which one must run quantities of cold water, burns should be smothered to keep out the air. Air makes the burn hurt more. In cases of severe burns, treat the patient for shock as well.

Somewhere in America every two minutes of the day and night a home is burning. Nearly 7,000 persons die from fires and burns each year. It would almost seem that an evil demon is abroad in the country, a demon much like the Fire Spirit of ancient Indian legend. But demon or no demon, it is now known that fires can be prevented and that the tragic results of fires can be mitigated. Perhaps, after all, the evil Fire Spirit is just another name for destructive human carelessness.

The "Demon" Housekeeper

By

LEE D. CADY

Speak no evil of the duty-burdened soul. She is ill. Her overconscientiousness is a symptom, not a vice.

THE "demon" housekeeper is always a nervous woman. In all probability she is merely conscientious about her housekeeping and is really not a wicked cruel person at heart. She is simply a demon for doing her job right—and she is nervous. Because she is nervous, she is a demon housekeeper; and because she is a demon housekeeper, she is nervous. She seems to be a conundrum as perplexing as the one about which was here first, the hen or the egg.

She should not be censured. She is that way because she is helpless in the grasp of her nervousness. It is not really so much her fault as it appears to be. She is to be pitied rather than blamed. She knows it herself. Sometimes when other persons do not volunteer sympathy, she mentions the matter herself. Any one who has watched a demon housekeeper for a long time knows how tired and nervous she is. She really works, and so she has cause to be nervous and tired.

Demon housekeepers often become domestic tyrants. If this is pointed out to them by some exasperated member of the family, they are hurt deeply and feel that they are not properly appreciated. Habits within the home cannot be confined there, and not infrequently the demon housekeeper takes on tasks too big for Atlas and tries to supervise everything that everybody of the family does outside her special domain. A demon housekeeper can no more help worrying about her husband and her children than she can help being nervous.

If she has a surplus of energy left over from the home, she is likely to go along joining clubs and other organizations, mostly altruistic in character. Probably the multiplicity of clubs is too much for her, and she rushes and tears around and sometimes breaks down. Many of these women do a lot of good in the world. They are like the busy bee; they would work until they die. A little praise is often their only reward. Often that is all they expect, and sometimes they do not get even that before they break down. Conscientiousness personified, these women!

All demon housekeepers are proud and sensitive. If you call one of them egotistic or selfish, perhaps her husband will clout you. How could a person who does all that unselfish work be called selfish? She works her fingers to the bone for others!

But I ask you, Does she nag and scold, or does she gain her ends by pouting? Can you convince her she is ever wrong? No, hardly ever. I ask you again, mildly, Which is she, egotistic or selfish? But speak no evil of the duty-burdened soul. She is ill. Her overconscientiousness is a symptom, not a vice.

Thus, being a demon housekeeper is a state of nervousness which may progress to the point of a breakdown. Let us consider an example or two. Usually it requires a physician to unravel these stories and put them back together again. I shall try to show the reason.

A little bundle of nerves was Mrs. Green-Brown. The doctor called at her home because she had not slept well for weeks and her heart was acting strangely. It was the heart disorder which frightened her. Further questioning revealed that she had some digestive disorders also, mainly manifested by belching, difficult breathing and dizziness. Tears welled up in her eyes as she recited her disorders. The doctor should probe gently but deeply to find the cause of that. She was withholding something. Here is that story unfolded:

Not infrequently the demon housekeeper takes on tasks too big for Atlas.

Mrs. Green-Brown had been a lively girl, always the life of the party. Her parents had been indulgent, and she had learned to think she might have what she wished because it was she who had wished. She took a bit more of life than was wise before she realized what she was doing. Eventually she married, determined to be the wife she should be. All went well until after her child was born. Later an operation was necessary and was performed, and then she believed she had a handicap for life. Really, she did not, but she believed it anyway. Thereafter she exerted herself more than ever to measure up to her own expectations of herself. She felt she must pay strict attention to everything about her husband and his home. A fear of inadequacy was firmly fixed in her mind. She must work hard, or something—she did not know what—would happen.

Her feeling of inadequacy and insecurity was not helped any by the death of her child. She worked harder than ever to forget her grief and everything. There would be no more children; her husband was all she had left. She asked herself, What if something happens to him, or to me, or to both of us?

Meanwhile the years passed by, and she was a good housekeeper. They had more than they needed and lived well socially and happily. The depression came, and the income shrank. The husband lost his regular employment. They moved to a quiet and beautiful little place where living expenses were remarkably reduced, and the husband was happy and busy at about half his former income. They were really better off except for vanity. She did not look at it that way.

Sleepless nights came; then sedatives, and then a fear of drug addiction. She wanted to sleep, but she did not. Desperate at times, she took large doses of her sedatives and slept sometimes. Her heart fluttered, she experienced strange feelings in the head, could not concentrate, and had terrifying dreams. In short, she feared heart trouble and insanity. She wept because she was irritable, and she was irritable because she wept. She did not know what was wrong, and she was afraid to find out about herself. She came to the time when she could not force herself to go through her usual ritual of housekeeping, cleaning, dusting and washing. She was sure she was at the jumping-off place.

Her fears were explained to her. Her physical and mental symptoms disappeared when she recognized how foolish she had been, and realized that there was a way out for her. Now she does not come in from a party late at night and start dusting the furniture just because she does not feel sleepy. If there is something awry in the house, it does not cause that feeling of anxiety known to all demon housekeepers. She is no longer running from the unknown. Her fear, the cause of her nervousness, is gone. She is cured, and she and her husband can live in their home in peace again.

Then, too, there is the rather strange case of Mrs. White-Black. She said that she had nothing, not a thing, to worry her except her physical condition. Undoubtedly that appeared to be bad, for she had been confined to her bed practically all the time for six months and at the end of that period went to a hospital.

First, consider what manner of person she was: nervous, tearful, sleepless and fearful. She

had a pain in the lower half of the face, the neck, shoulder, arm and even down into the leg. Sometimes this pain would jump to the other side of her tortured body. During the long wakeful hours of the night she lay, visualizing what would be her sad end and agonizing about it. Strong sedatives would not put her to sleep until she was practically anesthetized. If she did not sleep, she knew she could not get well. She must sleep! And how hard she tried to sleep. There—her heart was pounding as if it would burst. In the early hours of the morning her faith in her doctor's words were shattered. She just knew she had heart trouble too.

A doctor came who inquired into her private life and explained to her in simple language how sleep is something we do when we are doing nothing else; it is a purely passive action. He explained other things to her, and while talking he discovered she had been a demon housekeeper. Her mind was always splitting hairs about the right and the wrong way for her to do things. There! A clue. She was fearful she might do something wrong.

During her adolescence somebody near her had done a wrong. She inwardly resolved she would never do a wrong like it herself. Unconsciously she placed herself on guard for signs of wrongdoing. She reasoned, no wrong could be done if she always did the right thing. During her early married life, she had one nervous breakdown. After that she recovered her equanimity, and for fifteen years she kept everything spotless and in exact order in her home. Not content with that, she entered more assiduously into church and charitable activities than was wise for one of her strength. She had no money, so she contributed her energy. What could be wrong with that? She simply forgot that charity begins at home.

Two years ago, a pain came into her face. Removal of the teeth did not relieve the pain. That pain continued to come and eventually spread through half of her body at times. She thought the weather had something to do with her discomfort, and she protected herself well. But she became worse, and she could not drive her tortured body to keep up with all her duties, real and fancied. Her physical fears increased. She might die or be an incurable invalid. She saw herself doing just that, for she was then forced to remain in bed all the time. What better picture of misery and tortured nerves does one need?

This demon housekeeper's mind had three faults. She was self conscious, sensitive and imbued with a sense of inferiority. That means in other words, she was self centered, introspective and egotistic. She was not a braggart, but she was always trying to keep herself from being hurt. Add to that a fear of doing wrong and being shamed as a result; then add household duties, a child to rear and her husband's affairs about which to worry. These things made the demon housekeeper who became unaccountably flustered and excited when unexpected callers came.

Her conflicting conscience drove her to fancied duties outside her home. Then her apprehensive mind became centered on her own body by a pain. Her surcharged emotions made that pain spread. Quite naturally she feared the worst and broke, complaining of her inadequacy. And, I insist, her pain was real too.

It was no fault of Mrs. White-Black. Had she known what was behind it all, it would never have occurred that way. She was sensible enough to have prevented it. She was sensible enough to change it all when it was explained so that she could understand. She knows enough now to live in the present, forget the past and not borrow trouble from the future. She is a good, comfortable housekeeper. Her home is a home and no longer is kept as an exhibit for unexpected callers.

Of course there are other causes for the nervousness of demon housekeepers; but in each case there is always a fear of some sort with which they are unable to cope. It is the nervousness which should be treated and not the housekeeping symptom, which is only a symptom after all.

She would come in from a party late at night and start dusting the furniture.

SALVAGE

Reclaiming the "Polio" Victim

By

FREDERICK BRADMAN

NOT SO many years ago, the world in general and the United States in particular was shocked by the sinking of a submarine of the U. S. Navy, with nearly all hands aboard. Efforts to salvage the undersea craft and save the lives of those aboard her were so retarded by conditions beyond the scope of man's control that the possibility of saving the lives of the crew was definitely abandoned. The major cause for immediate salvage being thus sadly removed, there remained the possibility of recovering the undamaged mechanical elements of the boat which had so tragically carried more than two score of men to their watery graves. When conditions had changed and were considered favorable for salvage work, the task was undertaken in the best manner known, and after long and trying months of painstaking effort the recovery of the boat was effected. These were months during which heroism knew no bounds and men of the U. S. Navy wrote their names indelibly on the slate where only heroes' names are written; theirs was the opportunity further to glorify the fine traditions of their service, a service which from its inception in the early days of our republic has a history which bears traditions of the highest character and tales of extraordinary heroism.

It is not difficult to draw a parallel and to conceive of the victims of poliomyelitis as that same submarine, with certain functions impaired in varying degrees; some, perhaps, are so affected that the possibility of regaining their normal degree of efficiency is definitely removed; others, certainly, retain enough of their original make-up to justify attempts at recovery by the salvage crew, those good angels, the orthopedic doctors and technicians. With the submarine salvage crew, the use of boats, pontoons and high pressure hoses for tunneling under the ship as she lay on the ocean's floor corresponds to the orthopedic surgeon's use of muscle training and reeducation, surgical procedures and the final highly beneficial exercises that give the highest degree of effectiveness to the salvaged elements of the newly reconstructed physical make-up.

From the layman's point of view, the immediate reaction to the acquisition of a brand new case of "polio" causes him to wonder just how he will go about facing the loss of muscular function which has come on him.

Encouragement comes early, when the effects of shock have worn off, and he finds himself able to do certain things which he has been unable to do because of the general loss of strength throughout the body. It is, I should say, this early return of natural strength, with the passing of the immediate effects of the shock to the physical system, which gives the greatest impetus to the development of the early stages of the recovery.

Then, judging from my own experience, there comes a period when things seem to move with such slowness that one wonders how and where one will find the avenue to release from bondage. Fortunately there are such avenues, and the patient has but to enter on one of these broad highways to learn that they lead ultimately to such degrees of recovery as he deems possible only in the most wildly imaginative mental pictures.

All along the highway he sees signs: "Go slowly." These signs doubtless give rise to impatience in his mind, until he learns that they are there because experience has taught that a slow pace is the one that leads to the best results. Turns in the highway are made, if taken gradually, and after each turn he finds himself so much further along the road that he realizes the benefits accruing to a gradual passage along the avenue, with no attempts to speed his progress unreasonably.

Just as one sees cars smashed up along state highways, one sees physical disasters on the parallel highway to health. Speed and the incessant pushing of the mechanism to its utmost capacity result tragically in all too many cases, and this fact holds true on the road to regaining health as well as on state highways.

Once in the care of an able technician, the patient may at first wonder what possible good can come of a mere half hour a day devoted to exercises designed to recover some portion of his lost power. Careful attention to the details of the exercises and the constant bearing in mind that exceeding the speed limit in his actions away from treatment may lead to a smash-up can readily accustom the convalescent to the pace that it is so necessary to follow.

It is so easy to try to fool not only the technicians and the doctors but oneself as well by going through the exercises in the easiest but often the wrong way; the patient feels that he can get what appear to be results by using the wrong muscles to effect an apparent improvement; he can hardly be blamed for this, but the tendency should be immediately checked as soon as it appears. However, this is the same, in effect, as going off on a road clearly labeled with a sign, "Blind Street." He makes what may appear to be progress, until he is

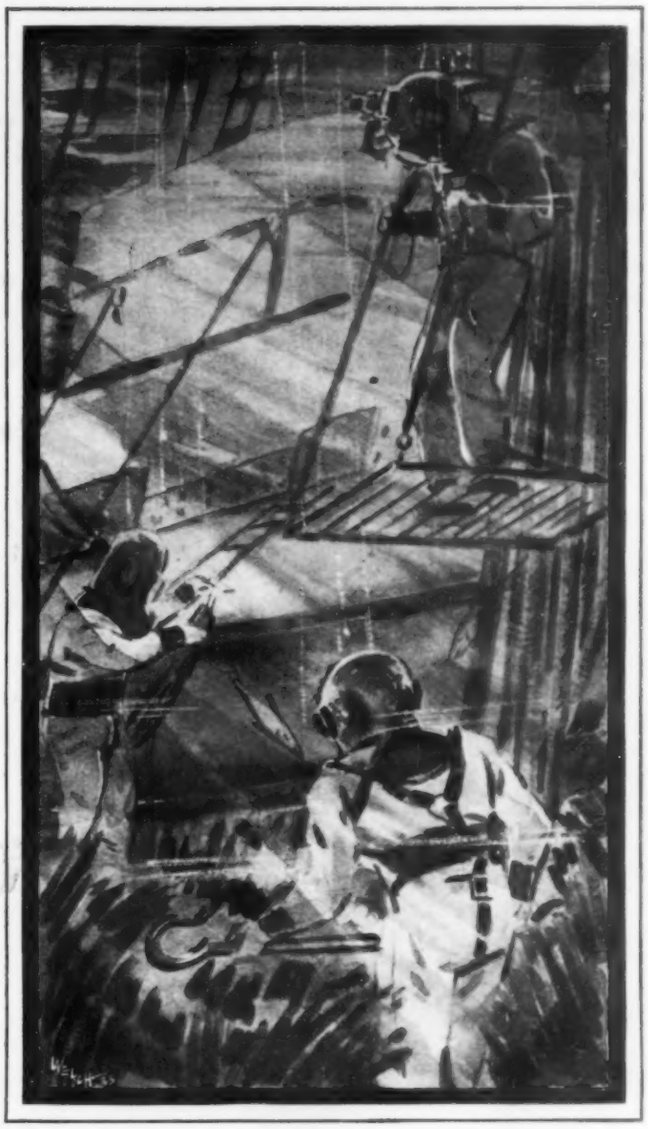
actually faced with the problem of relying on the muscles which, in his eagerness to show results, he thinks he has been developing. Then there looms up the shadow of ineffectiveness. He reaches the end of the street, as it were, and finds that his time has been wasted. With this there come discouragement and the necessity of turning back and starting again from the point at which he began to practice this self deception. It is imperative to do exactly what is prescribed and, in spite of the fact that the result may apparently be obtained in another, easier way, to go on bit by bit, developing the essential foundation to the fullest degree of efficiency.

Recent experience has justified the faith of the orthopedic pioneers that treatments in water are of inestimable benefit. From the professional point of view, of course, this is due to the fact that elements of muscle power too minute to be noticeable when opposed by the forces of gravity or friction, or both, loom up when released from these forces. The buoyant force of the water does away with them, and there remains little load to be overcome to show that a muscle has some function left. Furthermore, the ability to demonstrate muscle function in water is a wonderful builder of morale for the patient, who looks at the matter from an entirely nonprofessional standpoint and knows little or nothing of technical details. Something appears which has previously seemed lacking; here, certainly, is progress! Fun is to be had, too; exercises can be so planned as to make them entertaining to the patient, and surely benefits cannot be derived in a more pleasant manner than by having the patient actually enjoy doing what it is necessary for him to do.

Having developed what remains after the disease has taken its toll, there is still another step. It is this one more than any other, I believe, which makes the most noticeable progress possible. By means of surgery, permanently weakened joints can be blocked and, in many cases, their action will never be missed; muscles can be transplanted and found of much more value in their new functions than they previously were. Old broken bodies are made new!

We have all had experience, as youngsters, in experimenting with mechanical toys; we have changed them about to suit our own uses for them, using a wagon wheel on a shaft to transmit power or taking pieces of steel designed for the walls of miniature houses to make wings for a toy airplane. Just so does the orthopedic specialist, when the need arises, change muscles to better advantage than their normal functions would permit.

Postoperative periods are a necessary evil, and when they are thought of as such, they are not so hard to endure. The patient knows, when passing through one of them, that under the



plaster cast, the bandages and the mercurochrome, he has something that is better than what he had before; and he eagerly awaits the opportunity to test it out and prove it better and to teach it its new function. If the mind is kept occupied and diverted from the impatience that seeks to attach itself to periods of enforced inactivity, time can be made to pass rapidly. An outstanding example of this is clearly demonstrated at the Orthopaedic Hospital School in Los Angeles, where one sees groups of little children, sufferers from "polio" and kindred ailments, apparently unaware of their infirmities, busily learning to sew, to weave or to do any number of things which present themselves as means of occupying time and mind.

Finally there comes the day of release. The submarine is afloat, recovered by those unflinching heroes of the salvage crew. Likewise, the body is again made fit—made well by those men, no less heroes than the submarine salvage crew, the doctors whose lives have been devoted to a study of orthopedic surgery, so that a body, once maimed by the ravages of disease or accident, can once again assume its burden and carry on.

Should Your Child Wear Glasses?

By
J. ROBERT BURKE

If the child lacks interest in her food or if there is a sudden change in her disposition, eyestrain should be considered.

FREQUENT comment is made relative to the ever increasing number of children wearing glasses. Parents are particularly interested in this subject, either because their children are already wearing lenses or because of the possibility that this will happen later. Oculists are asked to explain why so many children today have poor vision and to give suggestions to aid in the prevention of the need of glasses.

Some one has said that "God had His ingenuity taxed to the utmost when He devised the human eye." It is a most wonderful affair but not perfect. When a baby is born, his eye is extremely short, but there is a refracting medium in the eyeball which compensates for this shortness, so that in the majority of cases an infant sees normally. As a child grows, the eyeball should grow in proportion; but if this ratio is upset and the eyeball grows too much and becomes longer than it should be, myopia, or nearsightedness, results. If the opposite happens, the eyeball is too short and hyperopia, or farsightedness, results. If only one section of the eyeball is at fault, astigmatism is produced.

If the eyeball of your child is either too long or too short, rays of light entering it do not come to a focus in the proper place on its retina. The retina corresponds to the film or plate in a camera. If one does not obtain a proper focus for the object being photographed, a blurred picture results. In cameras capable of reproducing objects in fine detail there is a mechanism which allows the photographer to change the position of the lens so that the rays entering the camera through the lens are brought accurately to a focus on the film. The eye possesses a lens which is capable of changing its shape to refract properly the entering light rays, but it is not elastic enough to divert these rays in the more extremely nearsighted, farsighted or astigmatic eye.

The eyeball has a number of muscles attached to its outer wall and one circular muscle inside surrounding the lens. These muscles come into play when the child tries to change the shape of

his eyeball and the curvature of his lens when attempting to bring objects into proper focus. If his effort is too great and is repeated too frequently, certain signs and symptoms will be produced.

Let us assume that the child's general physical condition has been checked up and found satisfactory and that he is being fed properly. If he has reddened lids with crusts or scales at the bases of the lashes or if he suffers with frequent sties, he probably has eyestrain and is in need of glasses to correct this condition. If there is a sudden change in his disposition; if he becomes easily fatigued, lacks interest in his food and frequently complains of headache which may or may not be accompanied by nausea and vomiting, or if he scowls, squints, blinks or develops habit spasms in the muscles of his face or other parts of the body, eyestrain should be considered immediately. If his school work is not up to its usual standard and his ears are normal, eyestrain or poor vision may be causing the slump in his work.

A "turned" eye is such an obvious defect that it will probably receive attention long before the abnormal eye which produces only subjective symptoms. The turned eye should be treated as soon as it is recognized, because usually this eye has poor vision, and every effort to retain its existing vision and promote further vision should be made. The eye has turned because the child has not been able to make it coordinate with its fellow and has allowed it to turn to avoid double vision, which is always confusing. An unused eye, like an unused hand or arm, soon loses its function, and the longer it is unused the greater is the difficulty in bringing it back to a useful state.

What can be done to prevent these signs and symptoms? It is obvious that some means must be used to bring the entering light rays to a proper focus in these abnormal eyes. The best known method is the use of glasses worn before the eyes. Lenses properly ground and fitted will correct, for all practical purposes, the defects found in a young person's eyes, excepting those cases in which the eyes have been badly diseased or injured. In turned eyes the most valuable means of effecting relief or cure are the wearing of glasses, which will blur the vision in the good eye so that the offending eye will go to work, and the carrying out of various exercises.

There is a definite aversion on the part of most parents to the placing of glasses on their child. This is a perfectly natural reaction; but in many cases the feeling is carried to extremes, and consequently the child is left without proper treatment. This lack of care makes things difficult for him, and in some instances it is the direct cause of the development of an inferiority complex, which may be carried on to later life. Parents sometimes remark in the presence of a child that they "just hate to think of him wearing glasses." This makes a definite impression in the mind of the child, and he instantly realizes that he is inferior to other children; but he also

Nearsighted children, more than any other group, like to read or do close work because their world is a limited one.

learns that he has an ally when sympathy is desired. If it happened that this child needed a cumbersome brace or cast to aid a weak spinal column, the parents would not hesitate a moment in having it applied; their attitude would probably be the same in regard to an ankle brace or "straightening bands" on crooked teeth. Why do they not feel the same toward the child's eyes? Many defense reasons are offered by parents, but at the bottom of it all I believe that the cosmetic phase is paramount and that subconsciously they think the child is proclaiming to the world a physical defect which was transmitted by them. Another objection offered is the fear of an injury to the child's eyes or face if the glasses should be broken while they are being worn. The risk is slight, and if this is the only objection, so-called nonbreakable lenses may be used, although they are not as efficient as regular ones. Recently a 4 year old boy was struck in the eye by a dart thrown by a playmate. The eye could not be saved. If he had been wearing glasses, he would probably still have his eye.

Some parents believe that if a child once starts to wear glasses, he will be obliged to continue; but this is not true. One cannot tell exactly what the condition of any particular pair of eyes will be after a given time. If the visual error is fully corrected, there is a better chance for the condition to adjust itself. Eyes may be nearsighted one year and become farsighted the next.

Before your child enters school, it is wise to have his eyes examined, as many unsuspected visual errors are discovered at this time. If glasses have been prescribed by an oculist, keep them properly adjusted by the optician, for children are often careless in handling their frames. Improperly adjusted glasses offset the results sought, and in many cases they can produce more eyestrain than was originally present. The child who wears glasses should have his eyes examined at least once a year as this is the period in which the eye is changing shape, and errors are more apt to arise.

If you receive a notice from school that your child has defective vision, do not become incensed or make slurring remarks as to the ability of school authorities to examine eyes. School officials are really trying to help each child, and parents should do their part by having the child's eyes examined by an oculist. If your child is subject to the symptoms already mentioned and you have not been notified that his vision is faulty, you must not assume that his eyes are not to be considered as a cause. The child has probably been able to squint so that he could pass the brief school test; but if he tried to read similar letters for a number of minutes, the error would have been detected. Examination with the pupils dilated by the oculist will result in the discovery of a definite error.

If your child has a turned eye or visual errors, do not think that he will just outgrow the condition. This may happen in a few cases, but how are you to tell that your child's case is one of them? If one waits too long, it may be too late for correction, and lasting damage may be done. Be fair to your child and give him all the aid possible in combating the results of defective vision. If the oculist has said that the child should wear glasses constantly, see that he does so, as a few hours without glasses may undo all the good accomplished by hours of wear. . A definite relief in symptoms will be noticed; but in the case of the turned eye, one should not expect startling results immediately.

What are some of the ways to prevent normal eyes from becoming troublesome and defective ones from becoming worse? I believe that present-day educational methods are at fault in demanding so much intensive close work in the classroom; insult is then added to injury by demanding home work of pupils even in the lower grades. Certainly the less any part of the body is overtaxed, the less chance there is of fatigue with its manifold complications. The books for children today are fascinating both in story content and in illustrations; because of this, one must be ever watchful that the child does not overtax his sight in poring over them. Reading in bed at night or early in the morning should not be allowed. If the child is doing intensive school work, too many extracurricular activities should not be added. Everything should be done in moderation.

Some authorities claim that simply because school years happen to coincide with growing years, classroom work is unjustly blamed for increasing visual errors. They believe that all these errors would develop anyway. I do not agree entirely with this, as the "proof of the pudding is in the eating." Many children remain symptomless when prolonged close application has been eliminated. Nearsighted children, more than any other group, like to read or do other close work because their world is a limited one, and they naturally develop a habit for these things. This is not good for their general condition as they are not playing the usual outdoor games which would help so much in their development. The nearsighted child who wears glasses and is able to see a thrown ball or to watch the activities of his playmates at some distance is a much happier child, and his eyes obtain the rest which is essential.

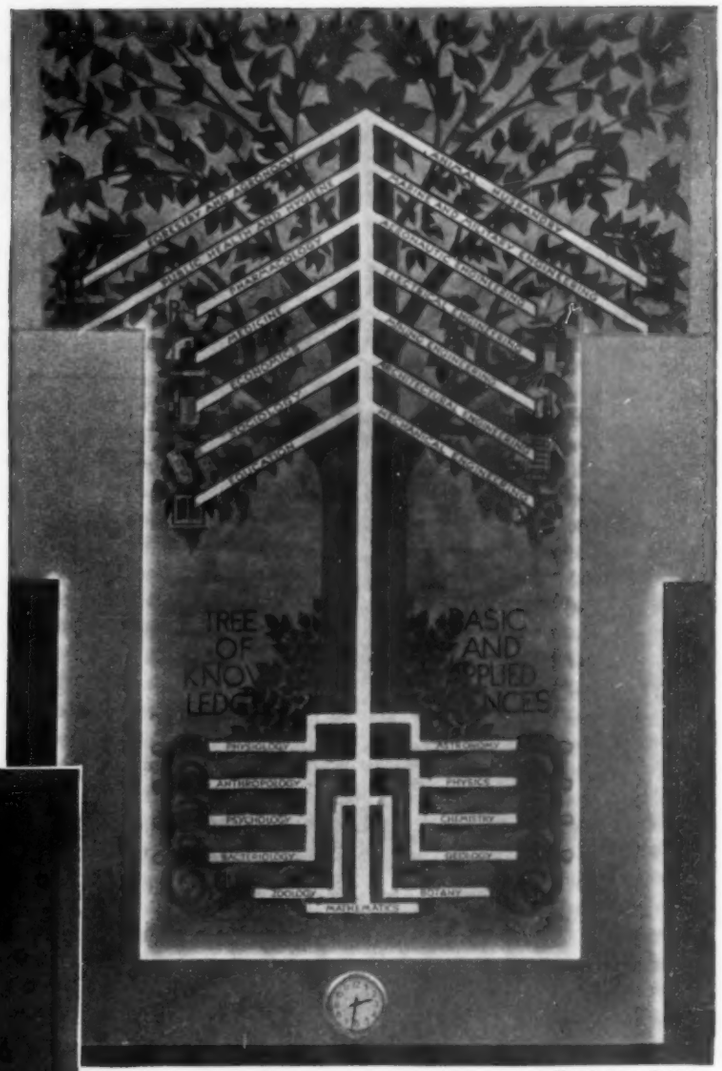
The most important single factor in the treatment or prevention of defective vision in children is a sound general physical condition; to attain this, there must be proper feeding and sane living. Next in importance is the avoidance of all intensive prolonged close work, such as reading, sewing and jig-saw puzzles. If in spite of all precautions a visual error develops, the child must be given treatment promptly.

At A Century of Progress

Kaufmann-Fabry

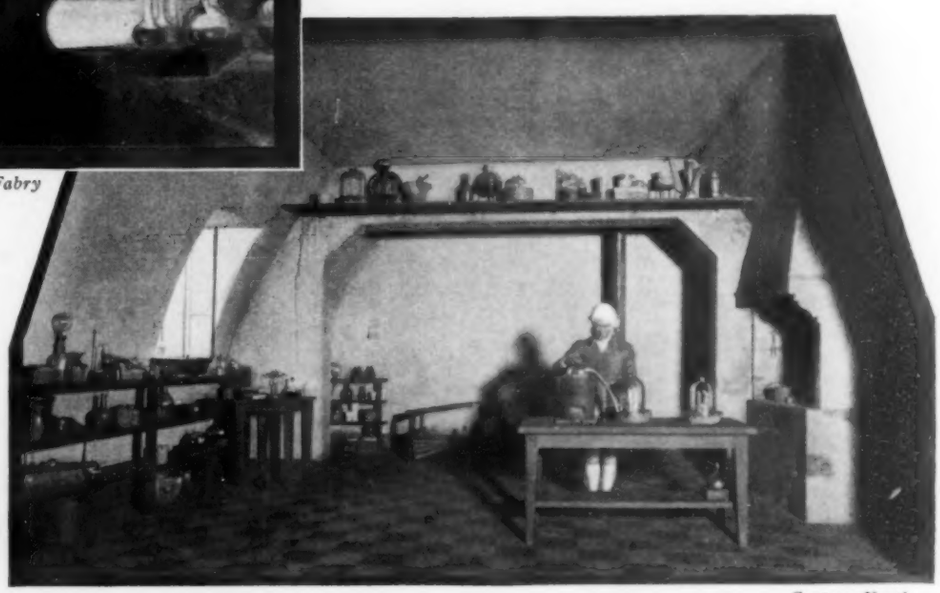
Kaufmann-Fabry

Pasteur, premier microbe hunter, shown in his laboratory, painted the picture of his mother, top left, when he was only 15 years of age.



Kaufmann-Fabry

The Tree of Knowledge occupies a conspicuous position in the Hall of Science. It shows the development of applied sciences from the basic sciences, which are represented by the roots of the tree.



Century-Korth

Lavoisier, eighteenth century chemist, is shown in his laboratory working on experiments which laid the foundation of modern chemistry.

WINGS OF DEATH

A GIANT airplane came roaring through the sky. The grim-faced pilot held it to the course for ten hours and thirty-two minutes, uninterrupted sailing time to Miami, Fla., the port of destination. A cage of mosquitoes, yellow fever carriers, had been liberated in the plane at a Central American port of call which was known to be infested with the disease. The passengers, two scientists, rode with possible disease and death; but by this ride they made it possible to avert the presence of yellow fever on American soil.

Yellow fever is spread through the bite of mosquitoes, especially by the variety known as Aëdes aegypti, although other varieties also carry the infection. If the female mosquito has access to a person afflicted with yellow fever during the first three days of the disease, it will suck up some of the blood. After a few hours the blood of this insect will carry the infecting agent of the disease. A bite now may mean death, for there is no known cure for yellow fever. Of those who contract it, one of every two will probably die.

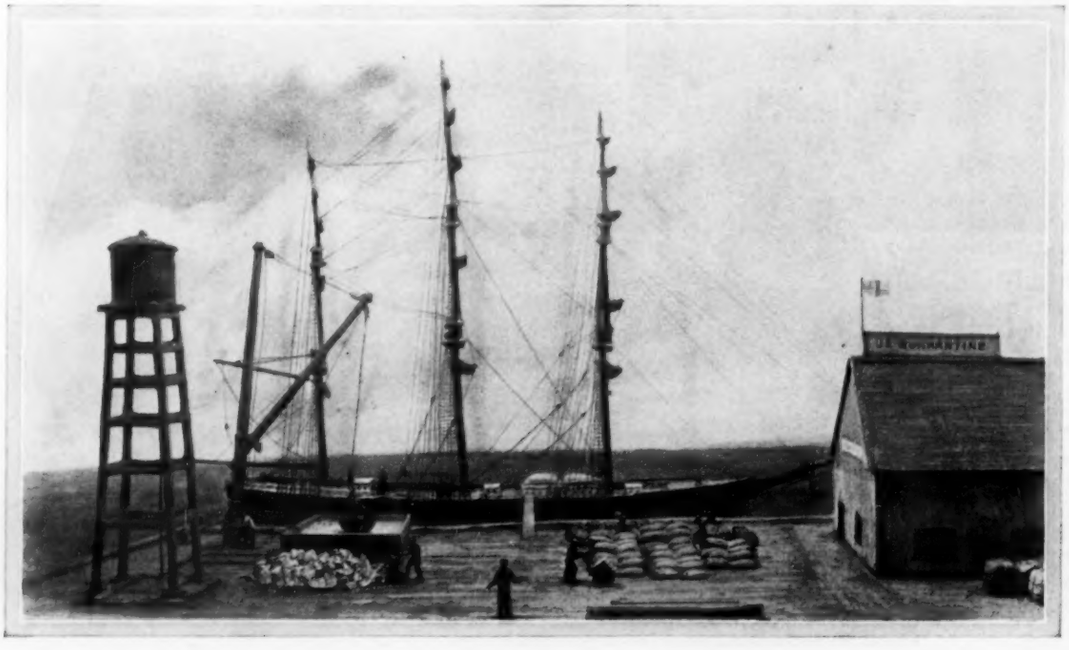
Yellow fever is still endemic in many countries of Central America and South America. Passengers coming to the United States from these countries by ships did not bring any risks. The ocean voyage required from one to three or more weeks. If a victim of yellow fever was aboard ship, he would not be in the infective stage for mosquitoes after the first three days. By the time the ship reached North America he would no longer be a source of danger.

Then came the airplane. And Miami, Fla., the air gateway to Central America and to South America, was less than one day away from certain ports of call known to be infested with yellow fever. The danger was imminent!

When passengers took to the air, mosquitoes went with them as stowaways. The insects hid in dark compartments where light and wind did not disturb them. They crawled under seats and into luggage and clothing. When the passengers landed, the mosquitoes went with them. Many of these insects were harmless enough except for the discomfort and annoyance they caused. However, there was always the possibility of bringing in a yellow fever carrying variety. Only one such mosquito infected with the virus of yellow fever might be sufficient to introduce the disease.

The French government had made several investigations of the possibility of airplanes carrying dangerous mosquitoes and had announced as its opinion that such mosquitoes would not survive the high altitude at which planes were flown; but the U. S. Public Health Service was not satisfied to accept this conclusion. Airplanes coming from infested ports of call were carefully inspected for yellow fever mosquitoes. A small power suction apparatus was devised to help in the hunt, and every inch of the planes was covered, inside and out. Live mosquitoes were collected. Among them were specimens of the dread Aëdes aegypti.

While this ordinarily would be accepted as evidence that live mosquitoes which might possibly be carrying yellow fever could be brought into the United States by airplane, yet for scientific purposes this was not absolute proof. The scientists would be satisfied with nothing less than proving that a mosquito which was taken into a plane in an area infested with yellow fever actually made the trip to Miami



In man's fight against disease and death the price of success is eternal vigilance on the part of health authorities. During the latter part of the nineteenth century, vessels and ballast were washed in bichloride of mercury on arrival in the United States to protect against yellow fever. (Photos from U. S. Public Health Service exhibit, A Century of Progress.)

By LYDIA ALLEN DE VILBISS

and that this identical mosquito was captured alive at the end of the journey.

To obtain such proof a special plane was put at the disposal of the U. S. Public Health Service. In a Central American port, where yellow fever was present, hundreds of Aëdes aegypti were collected in a large container. The mosquitoes were then transferred to small copper wire cages covered with gauze. Some of the cages were sprayed with a yellow stain. Others were sprayed blue. Care had to be taken to hold the atomizer at the right distance, so that the stain would lodge only in the legs and wings and so that heavy droplets did not kill the insects.

The stained mosquitoes were then liberated in the airplane, and the scientists settled down to watch. The ride with possible death had begun.

Promptly the mosquitoes hid themselves in dark places. Only one was observed in the passenger cabin of the plane during the trip. Another found its way into the pilot's cabin and attempted to bite. In the late afternoon, with great relief, the pilot brought his plane and passengers to land at Miami.

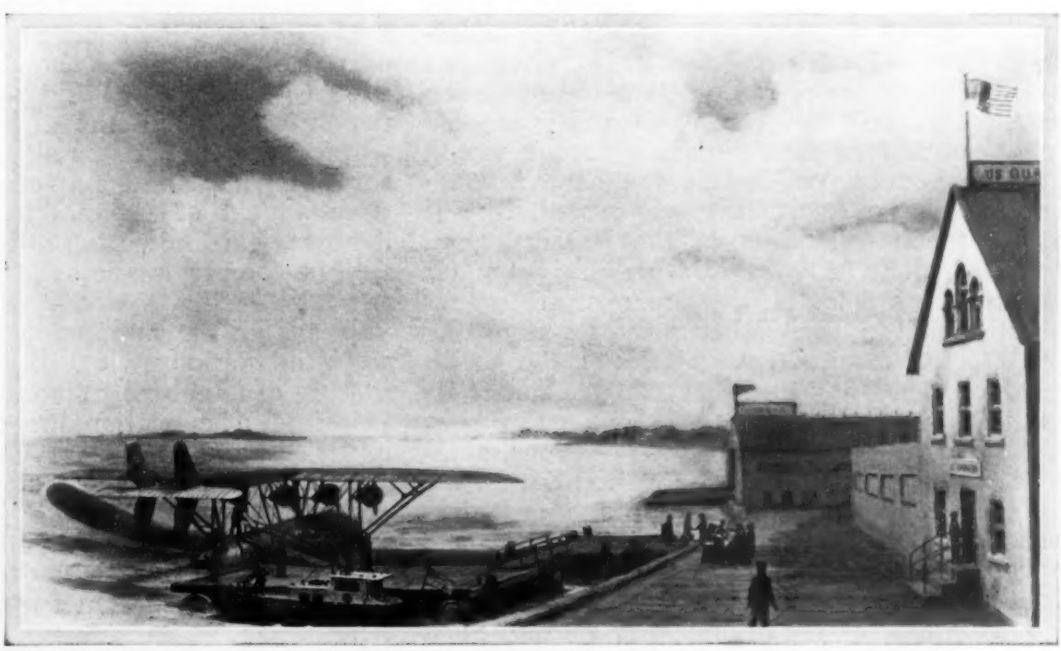
Quickly the special suction apparatus was applied to every part of the plane. The live mosquitoes were killed with a whiff of chloroform, and their wings and legs were mounted under the examining microscope. The telltale yellow and blue stains appeared!

There was no more guess work about it. No more chances were to be taken. Conditions at ports of call which might permit mosquitoes to get aboard planes were carefully scrutinized. All refueling, discharging and taking on of passengers came under inspection. Every plane was ordered cleaned by suction at every port of call. At every overnight stop the plane was to be disinfected. No more foreign mosquitoes were to be permitted in the United States.

While this experiment with the yellow fever variety of mosquitoes was being carried on, the U. S. Public Health Service was also making other kinds of tests. Seventy mosquitoes were liberated in a plane at Cristobal, Canal Zone. When the plane arrived at Miami none could be found. The experiment was repeated with the same results. No explanation was satisfactory. So the scientists went on an intensive hunt to learn what was happening to their mosquitoes.

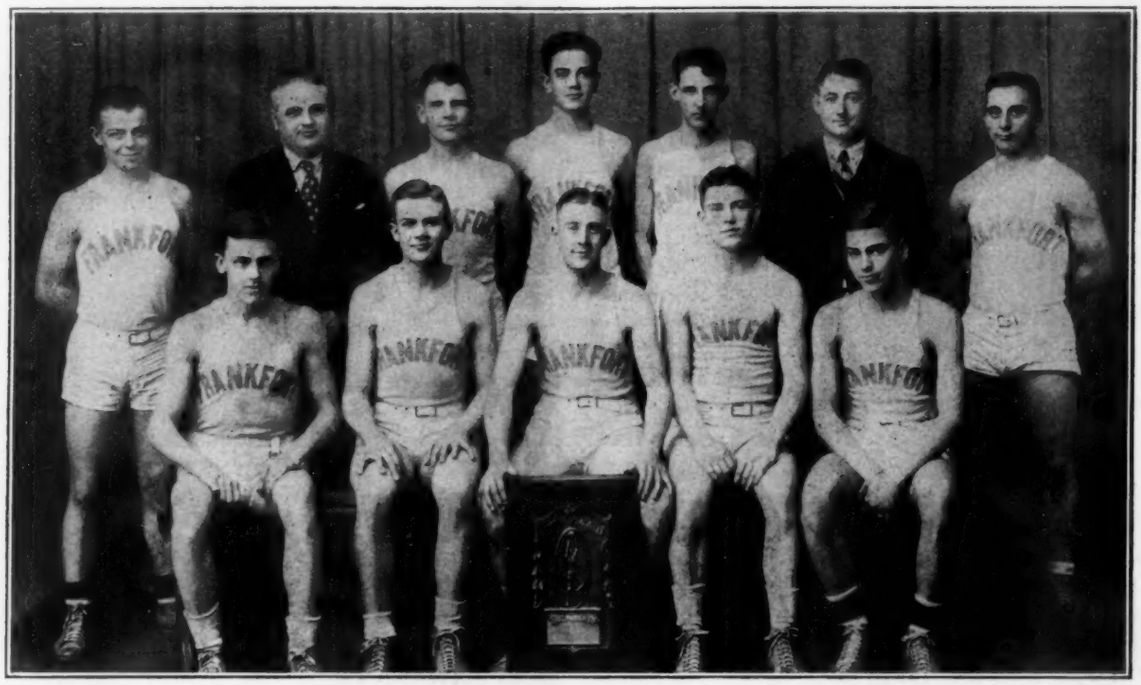
Another counted batch of mosquitoes was liberated in an airship at Cristobal. A scientist boarded the plane to search it after every port of call. Mosquitoes were still aboard when the plane landed at Baranquilla, Colombia, for an overnight stop. In the morning the mosquitoes had disappeared. On investigation it was found that a Negro who was employed to watch the plane had decided that the cabin would be a much more comfortable place in which to sleep if he first thoroughly sprayed it for mosquitoes. Unwittingly this Negro watchman had contributed an additional proof that careful spraying will destroy mosquitoes in enclosed places.

The precautions now being taken by the U. S. Public Health Service reduce to a minimum the danger of the spread of yellow fever in this country by the importation of infected mosquitoes. Such precautions, however, do not prevent the possibility of an epidemic being started by a person who has been bitten by a mosquito which is a *(Continued on page 956)*



Quarantine procedures of the U. S. Public Health Service have kept pace with the advances in transportation and sanitation, and the precautions now being taken reduce to a minimum the danger of the spread of yellow fever in this country by the importation of infected mosquitoes. In 1933, passengers are examined and planes fumigated to kill mosquitoes.

Safeguarding the Athlete's Health



A state championship basketball team of the Indiana High School Athletic Association.

By GEORGE R. McCORMACK

IF IT were possible for one to step into the Butler University Field House in Indianapolis during the annual championship basketball tournament of the Indiana High School Athletic Association and ask the thousands of enthusiastic fans assembled there whether basketball tournaments are injurious from the standpoint of health of the players, one would no doubt receive in reply a unanimous "no" of such volume as to wreck an indefinite number of radio sets tuned in on the tournament.

Such opinion, while democratic enough, would of course mean nothing so far as a reliable answer to the question is concerned, and it would mean even less to the Indiana High School Athletic Association, which has set about to determine scientifically the answer to that question and to many other questions regarding the effect of competitive athletics on the health of the 150,000 boy and girl athletes under its jurisdiction.

With hundreds of athletic associations, amateur and professional, in the United States, the popular conception regarding these organizations seem to be that they exist for the sole purpose of breaking records of one kind or another while providing entertainment and opportunities for the followers of sports. Such objectives might answer well enough the purpose of professional athletic associations; but with the amateur scholastic associations, such as the Indiana High School Athletic Association, health, cooperation and sportsmanship are among the ideals sought through competitive athletics.

In the past, athletics have been regarded by many in much the same manner as were some of the old "medicine show" nostrums, advertised to "make the blind see, the lame walk, the deaf hear and the dumb talk." In other words, athletics were popularly considered good for everybody and for everything, from the development of muscles to character. Every one has heard how the Battle of Waterloo "was won on the playing fields of Eton."

That athletics, properly conducted, offer real values from the standpoint of health and discipline is no longer questioned; and with the placing of health first among the seven cardinal principles of education, there has been a serious effort on the part of educators to measure those values. In Indiana all interscholastic athletic contests come under the jurisdiction of the Indiana High School Athletic Association, and that organization has undertaken the task of evaluating its program from the standpoint of health.

It may be well to review briefly the structure and principles of this association, in order that its health program may be better understood. The I.H.S.A.A. was founded in 1903 by principals of Indiana high schools in an effort to manage and foster high school athletics on a high plane, while offering to all boys and girls a real program of physical education, interpreted in the light of other educational aims and ideals. The association is controlled by the high school principals and is an organization distinct from the state department of education. Legislation is in the hands of a body of twenty school officials, chosen by the principals of the member high schools. In 1932 the association had a membership of 796 Indiana high schools.

With the drafting of the constitution of the I.H.S.A.A., health was recognized as a fundamental responsibility, and safeguards to health were provided in various ways.

The I.H.S.A.A. early recognized that the major interest of professional coaches is to win games. Consequently, the employing of "paid coaches" is prohibited, and only persons hired by the school officials in the capacity of teachers may serve as coaches. It is significant from the standpoint of health that control of the I.H.S.A.A. has remained in the hands of the principals.

Before a student is permitted to participate in any interscholastic athletic contest, he must have on file in the offices of the principal and the commissioner of athletics, who heads the association, a certificate giving the written consent of parent or guardian to his participating in the specified sport. A certificate of physical fitness, signed by a regularly licensed physician, must also be on file. A separate medical examination is required before participation in each of the major sports is permitted. Thus, a boy or girl desiring to compete in fall, winter and spring sports must have three physical examinations. Records of all physical examinations are kept in the office of the commissioner, and it is the duty of the principal to see that the report reaches the commissioner before the athlete is permitted to engage in competition.

The cooperation of the association and the physicians in making these examinations is of inestimable value. Hundreds of boys and girls try for the few positions available on the various representative teams, and every one must have a medical examination before starting training. In this manner many irregularities are discovered which may be corrected by special treatment, and which, in many cases might be aggravated by strenuous exercise.

The failure of a boy or girl to pass the physician's examination results almost invariably in the parent taking immediate steps to have the disorder corrected. So close is the follow-up by the schools of the physician's report that frequently when parents are unable to provide treatment, local welfare organizations are interested in the case. Sometimes funds from the treasury of the local athletic association are made available for corrective treatment.

Some general criticism of interscholastic contests has been registered, but the I.H.S.A.A. maintains that interscholastic contests afford worthwhile educational values, such as travel, comparison and association, which are not characteristic of intrascholastic games. However, there is the realization also that if athletics are to be beneficial to health they must be taken in homeopathic doses. Consequently the number of interscholastic contests in which a boy or girl may participate each season is limited. The association discourages interscholastic contests during the school week and has a rigidly enforced rule regarding tournaments and post-season games.

Each year the I.H.S.A.A. conducts a championship basketball tourney in which the winner is determined through a series of sectional, regional and state final elimination contests. The state final tourney, held in the Butler University Field House in Indianapolis, attracts thousands of fans from all parts of the United States. The tournaments, requiring two days each, are held a week apart and are so arranged that a team seldom plays more than four games of thirty minutes' duration in the two days.

Indiana High School Athletic Association
Health Study Blank

Full Name of Student.....
Home Address.....Date of Examination.....
Date of Birth.....Place of Birth.....
Have you had any disease or ailment in the last five years?.....
When?..... What?.....
Have you had any surgical operation?.... When?.... What?....

Physical Examination

Weight	Height..... Temperature.....
Head:	Heart:
Eyes	Rate .....
Ears	Effort Test.....
Nose	Blood Pressure:
Throat	Systolic .....
Pyorrhea	Diastolic .....
Goiter	Murmurs .....
Glandular	Arrythmia .....
Orthopedic	Urinalysis:
Posture	Color .....
Abdomen	Re-action .....
Chest:	Specific Gravity .....
Shape	Sugar .....
Palpation	Albumen .....
Percussion	Microscopic Exam. .....
Auscultation	

How many years have you played high school basketball?....
In how many games did you play in the state tourney this year? .....
Remarks .....
.....Examining Physician.
.....High School Principal.
.....High School.

NOTE—This blank will have meaning if and only if the examination is made carefully.

Jefferson High School Gymnasium, Lafayette, Ind.

For tournament play, ten boys from each school are eligible for competition; and since five players constitute a team, it is not necessary for the same players to participate in every game or to play an entire game without rest.

Despite the popularity of these tourneys, there has been some question as to whether they were injurious to the health of the players. In an effort to determine the answer to that question, the association, in 1927 and again in 1932, had the players in the state tournament examined thoroughly before and after the tournament.

In 1927, fourteen basketball teams of ten boys each who had played through a regular season of twenty games and also through a sectional and regional tourney were the subjects of the health study. The boys had played basketball from one to four years, and their ages ranged from 15 to 20 years.

In order to make certain that the health study blanks used in the examination were comprehensive, expert medical authority was consulted in preparing them. Local physicians cooperated by securing the desired data through careful examination before and after the tournament.

The state final tournament of 1927 was played as an elimination series, each team dropping out as it was defeated. Thus the winning team and the runner-up played four games of thirty minutes each, one on Friday and three on Saturday.

Following the final medical examination by local physicians, the health study blanks were submitted to two physicians in a neighboring city who were selected and employed to study and evaluate them.

Condensed, the report of the committee is as follows:

1. The examinations were evidently made in a careful and uniform manner by the examining physicians.

2. In the main, the boys entering the state final tourney were physically fit and in good health.

3. Eleven (.078 per cent) of the boys were given red marks by their examiners. This meant that these boys were not as physically fit as they should have been to participate in a tournament. It meant that six of the boys should not have participated in a tournament at all.

4. The health study blanks do not show that the tourney had any evil effects on the participants. The blanks do not show that the tourney had any good effects on the health and physical fitness of the participants.

5. There were no outstanding common defects found in the examinations of these boys. The heart examinations and the urinalyses were the most significant elements of the study.

6. It would seem that the study made indicates that more attention should be paid to the physical fitness of boys as a requirement for playing basketball. Evidently boys are being entered in games and tournaments who should not participate in them. This does not mean that the games and tourneys should not receive careful study and planning to eliminate the strenuosity in them, but it does mean that immediate attention should be placed on careful examinations of all players prior to games and tourneys and that rigorous suspension should be maintained

in all cases in which players show a physical fitness below par and dangerous to future health.

The 1932 health survey was conducted much in the same manner as was that of 1927. This time, 161 boys were examined. The following extract from the report of the physician who interpreted and evaluated the results shows that on an average the participants in the state tourney played in only 1.61 games:

"In the tournament ninety boys played in one game, thirty in two games, thirteen in three games and eleven in four games—an average of 1.61 games.

"From this study it is apparent that the Indiana High School Basketball Tournament has no demonstrable physical effect as judged by examinations herein outlined and performed by various physicians throughout the state. Certainly it has no deleterious effect. Perhaps from the standpoint of posture it has a good effect. However, the time interval between examinations (one week) is entirely too short and the difference in methods of examination are too diverse to draw conclusions."

Following the 1932 survey, the committee made the following report:

"The I.H.S.A.A. does not consider the results of these examinations conclusive but does believe that these examinations by reputable physicians present more definite information than has been collected by any other source. These examinations do not give mere opinion, expert or otherwise. They give facts as disclosed by examination and as interpreted by experts.

"There are those who say that the harmful results of tourney participation appear several years later in life. The same statement can be made that the beneficial results of tourney participation appear several years later in life.

"A careful study and comparison of the physical fitness of the participants in the 1927 tourney and in the 1932 tourney seem to indicate that the 1932 group was more physically fit than the 1927 group. If this conclusion is justifiable, it is encouraging as there seems to be no doubt but that only physically fit boys should enter tourneys."

Perhaps the most significant fact disclosed by these health studies is the necessity for thorough physical examination of all athletes at regular intervals during the season of each major sport and before all tourneys. This fact becomes more apparent when one realizes that every boy found to be physically unfit at tournament time had been examined at the beginning of the season and pronounced fit. In most cases the two examinations were made by the same physician.

The professional interest shown in the health work of the I.H.S.A.A. is evidenced by the following extract from a letter written by the executive secretary of the Indiana State Medical Association to the commissioner of athletics.

"The physical examination reports upon the 161 boys who played in the finals of the annual

Basketball

Type of Injury	Number	Expense
1. Tooth	27	$ 189.50
2. Finger	6	12.25
3. Nose	12	32.50
4. Rib	8	24.00
5. Bone in foot	7	28.50
6. Ankle	4	20.00
7. Wrist	4	26.00
8. Collar bone	4	13.50
9. Arm	5	196.50
10. Leg	2	17.00
11. Skull	1	.....
12. Sprain	232	221.50
13. Hernia	3	149.00
14. Torn tendon	28	58.50
15. Dislocation	21	128.00
16. Water on knee	4	21.00
17. Infection	139	206.25
18. Ruptured blood vessel	5	6.00
19. Ruptured kidney	...	7.50
20. Eye injury	39	86.50
21. Ear injury	0	.....
22. Injury resulting in death	0	.....
23. Floor burns	2	.....
24. Concussion	1	7.50
25. Injured heart	1	20.00
26. Athletes foot	15	38.00
27. Bruise	10	23.00
28. Cracked cartilage	1	3.00
29. Blister	2	.....
30. Hip injury	1	10.00
31. Back injury	1	2.00
32. Charley horse	5	12.50
33. Cut	1	1.75
34. Laceration	2	6.00
35. Knee injury	1	3.75
Total	594	$1,571.50

(Reports tabulated—190; "No injury" reports—28; Boys participating—5,137.)

Football

Type of Injury	Number	Expense
1. Tooth	46	$ 417.50
2. Finger	27	185.50
3. Nose	29	241.00
4. Rib	48	166.00
5. Bone in foot	15	89.50
6. Ankle	17	187.50
7. Wrist	17	102.50
8. Collar bone	49	756.00
9. Arm	17	433.00
10. Leg	9	385.00
11. Skull	3	72.00
12. Sprain	319	771.22
13. Hernia	7	327.00
14. Tendon	65	199.00
15. Dislocation	36	128.50
16. Knee (water on)	27	142.00
17. Infection	107	523.90
18. Ruptured blood vessel	18	67.75
19. Ruptured kidney	5	10.50
20. Eye	19	76.00
21. Ear	9	34.00
22. Injury resulting in death	2	820.00 plus
23. Hand	5	17.00
24. Lip	6	17.00
25. Charley horse	4	22.75
26. Knee (inj.)	9	67.00
27. Bruise	21	123.75
28. Shoulder	8	62.50
29. Elbow	2	11.50
30. Chest	1	10.00
31. Ruptured intestine	1	444.00
32. Spine	4	65.00
33. Concussion	4	80.00
34. Broken neck	1	(See No. 22)
35. Laceration	2	10.00
36. Hip	2	32.50
37. Broken jaw	2	12.00
Total	963	$7,110.37

(Total number of boys participating or playing—5,091.)

Track and Field

Type of Injury	Number	Expense
1. Sprain	15	$ 15.00
2. Torn tendon	2	2.50
3. Bruise	2	....
4. Laceration	1	2.00
5. Broken arm	2	20.00
6. Hernia	2	65.00
7. Infection	3	5.00
8. Broken bone in foot	3	....
9. Eye injury	1	....
10. Spike injury	2	....
Total	33	$129.00

(Reports tabulated—43; "No injury" reports—21; Boys participating—1,514.)

basketball tournament, along with your letter has been brought to the attention of the Executive Committee of the Indiana State Medical Association. The Committee was very much interested in these reports and wishes to congratulate the Board of Control of the Indiana High School Athletic Association for the painstaking methods pursued to gain information as to what effect basketball has upon the physical welfare of each boy."

In an effort to minimize athletic injuries through a study of their frequency, principals are requested to report to the commissioner all injuries occurring in the three major sports. The 1931-1932 reports show that more injuries occur in practices than in games, for the following reasons:

1. More players participate in practices than in games, and there are more practices than games.
2. Players in practices have less training generally than players in games.
3. Players in practice are not as well equipped as are players in games.
4. The competition is not as fair in practices as in games.

The report also discloses that of the total cost of athletic injuries, the schools paid 75 per cent and the parents 25 per cent. The expenses from athletic injuries were low, owing to work done gratis or at reduced rates by physicians.

The I.H.S.A.A. is as deeply interested in mental health as in physical welfare. Sportsmanship and proper mental attitude are stressed at all times, and the most coveted prize available for any Indiana high school athlete is the Gimble Medal, given each year to the player showing the best mental attitude during the state basketball tournament. Eligibility for an athletic team is based on the quality of academic work which the candidate is maintaining, and no one may represent his school in an athletic contest if he is failing in more than one subject. This rule is rigidly enforced, and any school violating it is faced by suspension from the association.

The extent to which the citizens of the state back the I.H.S.A.A. in its program of health through competitive athletics is attested by the fact that practically every member school has a gymnasium costing from $5,000 to $300,000, and by the fact that the association is supported by the receipts of the games.

BRIEF HEALTHGRAMS ✣ from Articles in This Issue

¶Speed and the incessant pushing of the mechanism to its utmost capacity result tragically in all too many cases, and this fact holds true on the road to regaining health as well as on state highways. *See page 896*

¶It is especially important for one to acquire the ability to discern the slightest warning of an oncoming illness. *See page 914*

¶Poison ivy is exceedingly common in many parts of the United States, and the increasing popularity of outdoor life and of scanty covering for the body results in an increasing number of poisonings. *See page 909*

¶Many of the difficulties attendant on the teaching of sex are solved when the child is taught the proper, the dignified name for the parts of the body. *See page 923*

¶The Indians tell the story of Nanabozho, a powerful chieftain who succeeded in bringing fire from the Fire Spirit of the North. *See page 889*

¶The tonsils are but one of several sites in the child's body which, once infected, may harbor that infection indefinitely. *See page 885*

¶Health, cooperation and sportsmanship are sought through competitive athletics by amateur scholastic associations. *See page 904*

¶There is a class of persons known as "demon housekeepers." These persons are nervous and in each case harbor a fear of some sort with which they are unable to cope. *See page 893*

¶The eye possesses a lens which is capable of changing its shape to refract properly the entering light rays, but it is not elastic enough to divert these rays in the more extremely nearsighted, farsighted or astigmatic eye. *See page 898*

¶In 1819 Laennec presented to the world the stethoscope. *See page 877*

¶The French government during the Napoleonic wars offered a prize of 12,000 francs to the person who developed the best method of food preservation. *See page 918*

¶When a recognized scientific organization of the magnitude of the American Medical Association is concerning itself with my problems as a housewife and making it possible for me to know what foods are good for my family, I want to derive every advantage from their work. *See page 881*

¶To prevent yellow fever from gaining entrance to this country, every person coming by plane from Central American and South American ports must be examined by officers of the U. S. Public Health Service. *See page 902*

Progress in Preventive Medicine

By
P. M. Ashburn

PART VIII

Scurvy was the scourge of soldiers, sailors and some pioneers of a century ago.

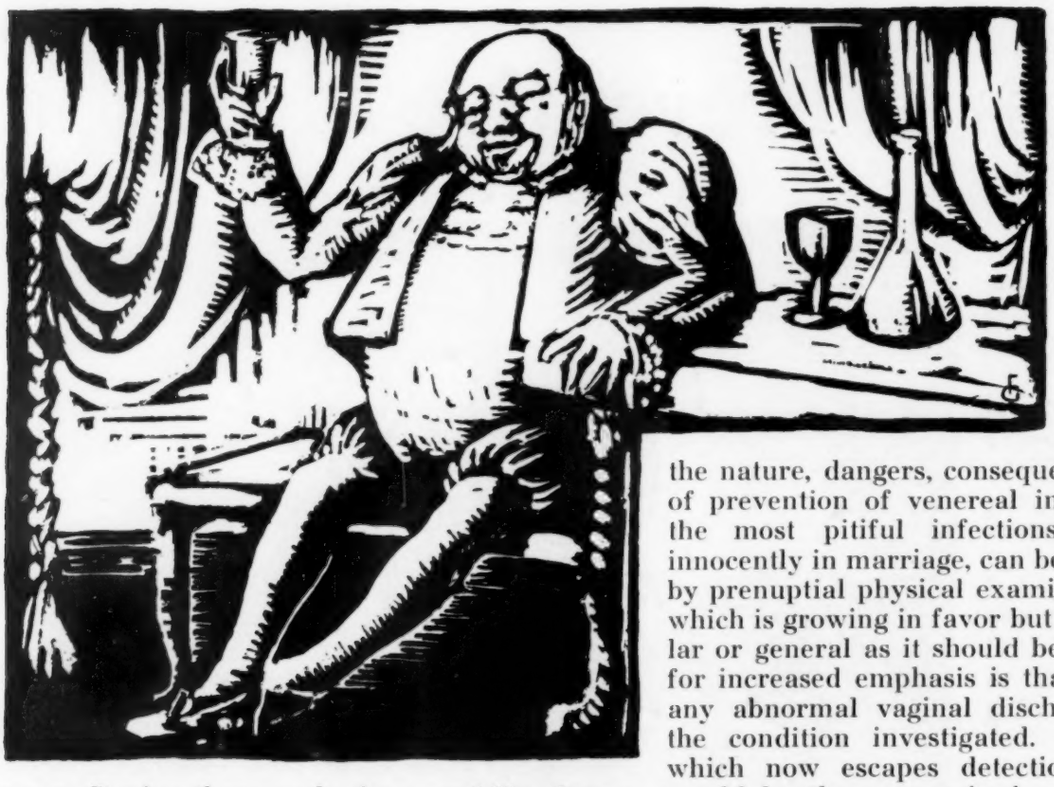
THERE IS a large group of diseases having little in common except the fact that they are transmitted by direct contact and direct introduction of germs from one body into another; but that fact is sufficient to justify one in treating them as a group. The most important subgroup in this large group of contact infections is that composed of the wound infections, suppuration, erysipelas, puerperal septicemia and the like. These have been mentioned in connection with the work of Lister. The prevention is found in the practice of asepsis and antisepsis. Rabies, or hydrophobia, is another of these diseases, and it was mentioned in the discussion of Pasteur's work.

Tularemia is a disease which was discovered only in recent years; it is now known to be widespread in the United States among certain wild animals, especially rabbits, and is conveyed to man in practically all the reported cases by injuries to the hands or contaminations of small scratches by rabbit blood while the animals are being dressed for food. If the hare is to be dressed for meat, the work had best be done with gloved hands.

An important group of the diseases transmitted by direct contact is that of the venereal diseases, which are most commonly, but not always, transmitted by sexual intercourse. There are three principal diseases and one or more minor ones in the group. The three are gonorrhea, syphilis and chancroid. They are now of worldwide distribution and do immense harm; despite the fact that they are preventable by simple means, their propagation is so closely related to a basic instinct, which in turn often separates men and women from their common sense and reasoning faculties, that these means are often forgotten or neglected, and the diseases still flourish.

The surest means for avoiding venereal diseases is the maintenance of chastity, but this is not an innate virtue. It needs encouragement and support, and in the past these have been furnished by public opinion and religion; but a hedonistic world, in which public opinion makes light of unchastity, largely ignores religion, and looks on pleasure as a chief objective in life, does not support it to the same degree as formerly. In other words, there is some reason to fear that the virtue which once tended to monopolize the word virtue is a rarer jewel than it was once upon a time. For this reason many persons have reached the conclusion that medicinal, chemical or physical measures should be resorted to in all extramarital sexual intercourse for the sake of public and racial health. This is not the place in which to describe those measures, but it may be stated that education in regard to the prevention of venereal diseases has been effectively carried on by propaganda through lectures, leaflets, moving pictures and dispensaries, a propaganda which reached enormous proportions in the army and navy during the World War and which has since been carried on by federal, state and municipal health departments.

Whether or not the world is as unchaste as it was in the early sixteenth century is not known, but venereal diseases are now growing less com-



"Do you set your name down in the scroll of youth, that are written down old with all the characters of age? Fye, fye, fye, Sir John."

mon. During those early days, syphilis, then a "new" disease, became an epidemic of vast proportions. So rapid was its spread and so general its prevalence that people could not or would not at first recognize its venereal origin, and it was attributed to celestial or astrologic influences. Unless the world is now much more chaste than then, the improvement must lie wholly in increased knowledge of the venereal diseases, their causes and the methods of prevention and treatment in popular education in regard to them.

Human behavior is too complex a phenomenon to be catalogued in a word; love, lust and desire are too potent to be controlled by a word; the epidemiology of venereal diseases is too complicated to be embraced in a word. Religion, law, morals, ethics, sociology, economics, race hygiene, personal hygiene, mental hygiene, science, are all concerned. Education, however, has reduced venereal disease; and if the world could only agree as to how to apply effectively the present knowledge and how to apply it without violating the laws of religion and society, education could finish the job and abolish the venereal diseases; but they will linger long, despite the fact that the reproach of false modesty is no longer applicable to polite conversation, to the stage, or to English and American literature. Being always the result of conduct for which the individual has at least partial responsibility, education of the individual must always be a principal factor in the control of venereal diseases, for such education aids in strengthening self restraint, self respect, prudence, and the sense of fair play and honorable dealing. It also includes a knowledge of the nature, dangers, consequences and methods of prevention of venereal infection. Some of the most pitiful infections, those acquired innocently in marriage, can be largely prevented by prenuptial physical examinations, a practice which is growing in favor but is not yet so popular or general as it should be. Another matter for increased emphasis is that all women with any abnormal vaginal discharge should have the condition investigated. Much gonorrhea which now escapes detection and treatment would be thus recognized, and other diseases could also be diagnosed and treated earlier than is now the case. When a man acquires gonorrhea, he nearly always recognizes the fact himself. When a woman acquires it, she accepts it as leukorrhea or cystitis, either of which she may regard as almost a normal part of the female life. The latest annual report of the chief medical officer of the Ministry of Health of Great Britain says that the returns show only slight evidence, if any evidence at all, of a decrease of venereal diseases in that country; but it is still believed that they have decreased considerably in the United States.

Ivy Poisoning Presents a Field for Education

Ivy poisoning is not an infectious disease, yet it is a disease due entirely to contact and one which can be largely controlled by education. As this discussion is not an attempt to treat the subject of disease prevention on a purely scientific classification, poison ivy will be discussed here. It is each year responsible for much discomfort and sometimes severe suffering in a vast number of cases. Some persons are not susceptible to the poison, whatever this may be; others are so highly susceptible that they are injured by handling lacquers into the composition of which the juice of the plant enters. The plant is exceedingly common in many parts of the United States, and the increasing popularity of outdoor life and of scanty covering for the body results in an increasing number of poisonings. Contact with the plant is most often due to ignorance of its appearance. All children and others going camping or picnicking should learn to recognize this plant.

When there has been contact with the plant, the exposed parts should be thoroughly washed at once. Gasoline is likely to be at hand for picnickers and is useful in removing the poison.

A large group of diseases are due to focal infection; that is, they are due to dissemination through the blood stream, and localization in distant parts, of an infection originating in a relatively small and often unnoticed focus in one small part, such as the tissues about the roots of teeth, the tonsils, nasal sinuses, gallbladder or prostate gland. Similar dissemination of disease from a primary focus of infection has long been known in syphilis, anthrax, pus infection of wounds and other instances; but it is only in recent years that medical science has realized that a hidden focus of infection, as about the root of a tooth, may give rise to disease as unlike it and as remote in location as lumbago or as rheumatic trouble in a foot. Many and diverse conditions, including rheumatism, chronic arthritis, myocardial disease, ulcer of the stomach, nephritis, diabetes, exophthalmic goiter and numerous other troubles, have been attributed and in some instances apparently traced to such infections. Efforts at prevention and treatment based on the belief in such an origin have been widely used. Possibly there has been a little too much enthusiasm for a new and plausible explanation; possibly many persons have lost their teeth and tonsils needlessly, but in many instances the removal of a focus of infection has given splendid results.

During the decade 1891-1900 the admission rate for rheumatic fever in the army was 5.28 per thousand; in 1902 it was 5.22; in 1926 it was only 0.53 and in 1930 only 0.35. This decrease was contemporaneous with increased attention to focal infections, and it may well have been a result of this. The medical and dental professions are well aware of the importance of this subject, and the general public is not uninformed. Only a professional adviser can make the diagnosis in these cases.

Many Illnesses Are Secondary to Other Diseases

Many diseases are secondary or complicating features of other diseases. For example, heart disease is seldom primary but is usually secondary to rheumatic fever, syphilis, gonorrhea or some other infection, or to arteriosclerosis. Still other diseases may cause it, such as exophthalmic goiter and most of the acute infections. The best measures of prevention are those which prevent the causative diseases.

Locomotor ataxia, paresis and numerous other disorders of the nervous system are due to syphilis, as are most cases of aneurysm and some cases of arteriosclerosis. The effective prevention lies in the avoidance of syphilis or its early and thorough treatment if it is acquired.

The term Bright's disease includes a group of diseases of the kidneys, most of them probably secondary to infections elsewhere; some of them are due to causes yet unknown. Many infectious diseases, such as scarlet fever, diphtheria and syphilis, cause inflammation of the kidneys. Arteriosclerosis is often associated with it, and prolonged suppurations elsewhere in the body may cause a degeneration of the kidneys which has effects similar to those of inflammation. The best way to avoid Bright's disease is to avoid infections and poisoning by such heavy metals as lead and mercury. There has been a good deal of so-called education in regard to Bright's disease which is false and misleading. Such a situation should be a warning not to press education until the facts are known. This so-called education has taught that kidney disease was due to dietary habit, such as the use of alcohol or the consumption of meat. The proof is lacking.

Most anemias, other than those resulting from hemorrhage, are secondary to an infection, to parasitic infestation, to poisoning by substances which destroy blood cells, such as lead or certain benzol compounds, or to deprivation diseases such as scurvy.

Causes of Some Anemias Are Unknown

It is true that there is an important group of anemias which are spoken of as primary or idiopathic. These terms simply imply that the causes of such anemias are not known. The outstanding example of a primary anemia is that form commonly called pernicious anemia; yet some cases of this are due to infestation with the fish tapeworm and are, therefore, secondary. It has also been learned in recent years that "primary" pernicious anemia can be greatly helped, or possibly cured, by feeding the liver or stomach tissues of animals, or by administering extracts made from these organs; hence it has been argued that this condition is a deficiency disease. It is probable that as medical knowledge increases, fewer and fewer cases of anemia will be considered primary. General hygienic living, good nutrition and avoidance of infections, parasites and poisonings offer the surest means for avoiding anemia. Education in general and personal hygiene covers all these topics.

Frequent causes of suffering and occasional causes of death are infections of the middle ear, the mastoid cells and the accessory sinuses of the nose. All these conditions are most commonly secondary to colds or other respiratory infections and are best prevented by avoidance of those infections.

Many serious diseases of the eye, such as choroiditis and retinitis, may be secondary to other diseases.

Liver abscess is usually secondary to an inflammatory condition in the intestine, par-

ticularly to amebic dysentery, and less frequently to appendicitis or other disease.

In all cases, avoidance of the primary disease is the sure preventive of secondary diseases.

Vitamins, a word of twentieth century coinage, appears frequently in the public press, in radio advertising, in discussions of dietetics and in popular interest. The vitamins are unquestionably of great importance in the maintenance of health and even of life. They are principles which are contained in minute amounts in certain foods, and their absence or a deficiency in the amount of them causes disease. Fortunately, the greater part of the world secures enough of them without knowing of their existence or making any special effort to obtain them. This is especially true in America, where the standard of living is relatively high and nutrition usually good, and where variety and quality of food stuffs are excellent. So the deprivation diseases, those due to lack of vitamins, are uncommon in most parts of this country, although far from unknown.

On the basis of animal experimentation, there are eight vitamins which are known or assumed to exist; while the question of a ninth is raised by the clinical observation that pernicious anemia can be cured, or at any rate controlled, by feeding large amounts of liver or stomach tissues or extracts made from them. There is quite clear-cut evidence as to the existence of about five of these vitamins, and four of them are known to be important in human physiology and pathology. The others may prove to be so, but the proof is not yet complete.

How Beriberi Led to a Knowledge of Vitamins

The first deprivation disease known was scurvy, but the one that led to present knowledge of vitamins was beriberi, a disease which is almost unknown in the United States but is common in the Philippine Islands and in much of eastern Asia. When Americans went to the Philippines they were confronted by it; and many of the Filipino soldiers, scouts and constabulary, and still more American prisoners died of it. All were fed on a diet of which rice was the principal component, not only because it was cheap but also because it was the established diet of the people, the diet of their choice, or at any rate of custom, as it was throughout most of the Orient. Japanese, English and Dutch doctors were studying beriberi, and they had brought out much evidence suggesting that the disease was due to a diet consisting principally of highly milled rice from which the covering or brown pericarp had been entirely removed, leaving only the polished white grain, such as is used in this country. The American authorities prescribed the use of only undermilled rice instead of the highly milled, the addition of mongo beans to the ration, and the more or less compulsory use of meat. Beriberi underwent a sharp decrease; the number of cases in scouts fell from 604 in 1909 to 50 in 1910 and to 2 in 1911. Equally good results were obtained in the constabulary and in the prisons and asylums. The preventive substance was found to be contained in minute amounts in the covering of the rice grain, in beans and in other foods; and it was shown to be curative in small dosage. This practical experiment with such dramatic results stimulated investigators in all parts of the world to look more carefully for deprivation diseases and their causes, and promptly opened the doors to knowledge of vitamins.

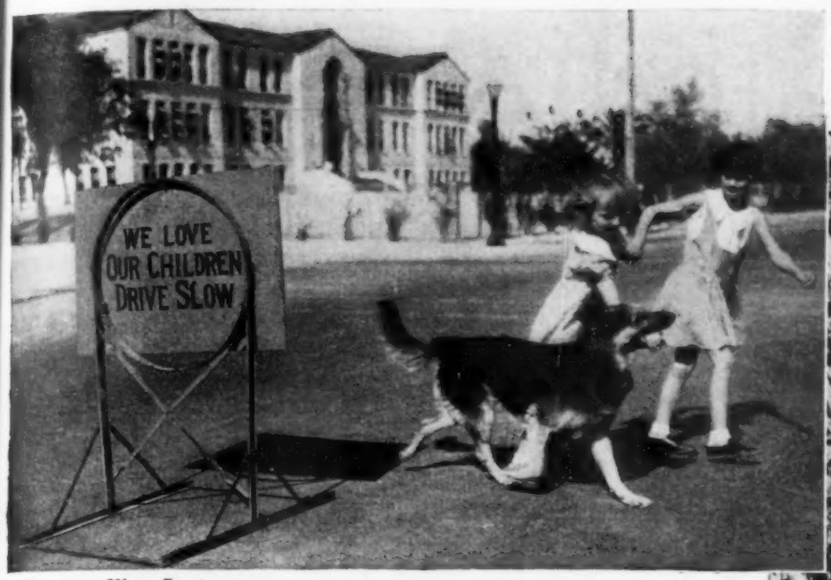
Except for pellagra, deprivation diseases in this country affect principally young children, and the two most common of them are rickets and infantile scurvy, both happily less common than formerly, and ordinarily much less severe.

Scurvy, the Scourge of the Early Settlers

Scurvy was a common disease in soldiers, sailors and some pioneers of a century ago, and the accounts of many outbreaks show that it was a truly terrible disease. It was then a disease affecting mainly adults, probably because nearly all infants were then breast fed and their mothers furnished them a sufficiency of vitamin C, even if they did it at the expense of their own bodies. The disease was common in adults because it is due to deficiency of vitamins contained only in fresh foods such as fruits, tomatoes, cabbage and meats; at that time the preservation of foods by means other than drying, salting and smoking was practically unknown. In consequence, the soldier, the sailor and the settler who had to carry over their winter stores were apt to have to live for long periods on cereals and salt meat, with some dried fruits as luxuries. These things all lacked the important vitamin which prevents scurvy.

Captain John Smith, the settler of Jamestown and the recognized English authority on colonization at that time, prescribed the following "victual for a whole year for a man and so after the rate for more: 8 bushels of meale, 2 bushels of pease, 2 bushels of otemeale, 1 gallon of oyle, 2 gallons of vinegar." Is it any wonder that scurvy was the scourge of most settlements made in America in the sixteenth and seventeenth centuries?

With the advent of fruit canning, of cold storage and of rapid transportation which places fresh vegetables at one's disposal the year round, scurvy practically disappeared as a disease of adults. At the same time maternal nursing decreased, and more and more children were artificially nourished; in order to protect them from infection they were nourished on boiled, pasteurized, condensed or dried milk, deficient in vitamin C. So infantile scurvy increased as that of adults disappeared. However, long before any *(Continued on page 952)*



Keystone View Company

"We Love Our Children, Drive Slow" is a conspicuous sign which helps to safeguard the children of Tucson, Ariz.

William Thompson

William Thompson

In France, peach branches are pruned and attached to walls as seen in the circle to the left. The ripe fruit is gathered by aid of a step-ladder, in the picture above.

Acme

Lunchtime golf on the roof of Adelaide House, London, is a favorite pastime of business girls. Over the fence is out!

TRAINING FOR ATHLETICS

CHAPTER X

First Aid to Yourself

HAVE you ever observed how a thoroughbred Boston terrier takes care of his health? It is an everyday proposition with him; that is, he sees that he has sufficient daily exercise. It may be that he will sit up in front of you and speak in loud, firm tones. Whatever his method of conveying his desires, there is no mistaking his meaning; he wants to go for a walk. Or he may shake an old sock at you, challenging you to grab hold and play.

On days when you are so busy that there is no time to waste on a mere dog either to go for a walk or to play with a sock or a ball, he soon senses this fact and, undaunted, starts out running on a self planned course. He will not cheat his body of the exercise it needs.

Nevertheless, a Boston terrier, with all his efforts to keep healthy through exercise, is at a disadvantage, for he must eat when and what his master feeds him. Sometimes the food he gets is too rich, and he becomes ill. Then he is at the mercy of his master or the veterinary who administers first aid to restore him to health. Could a Boston terrier give first aid to himself and thereby regain health, he would undoubtedly do so, for intuition tells him that he will not be happy unless he is healthy.

Strange, perhaps, that you could learn a lesson in health from a Boston terrier. It is true, nevertheless, that you will be hard pressed to keep up with him on regularity of daily exercise; and he would surpass you if he knew how, when it comes to first aid methods which would restore him to health in case of slight illness.

Every individual who has grown old and kept vigorous has found that keeping healthy is a matter of everyday vigilance. There are certain signs of approaching illness which one can observe; once found, they can be treated by first aid methods, thus staving off serious sickness. This daily watching of your physical condition and then administering first aid may be a new idea to you. However new, it will save you many a serious illness if you are intelligent in your method of first aid to yourself.

Let us assume that you suddenly find yourself isolated on an uninhabited island in mid-ocean. Like Robinson Crusoe, you soon find that to live you must strike out for yourself, exerting every effort possible in the business of keeping alive. On this island you do some real thinking; you search your mind for possible methods of signaling ships; you search for food; you improvise a shelter. All these acts are natural, for your very instinct sees to it that you try to keep alive.

It so happens, let us further assume, that you are on this island for many months. No ships come near your out-of-the-way island home. Each day you learn more and more of the art of living, of preserving your life. But alas, one day you fall ill. This sudden illness is quite queer, you think, for you had been perfectly healthy. After a time, however, you gradually recover. Several days later you again fall ill. Perhaps for the first time in your life you do some real thinking on the problem of keeping healthy. "Why did I fall ill?" you ask yourself. In your thinking you decide that the two illnesses were similar in nature. Finally you conclude that they may have been caused by some fruit you have been eating. So you eliminate from your diet various fruits; and after one more illness you hit on the fruit that has been making you ill. From then on, you do not eat that kind of fruit.

For the first time, too, you begin to notice the functioning of your body. You have plenty of time to do so. Back in civilization you never watched for signs of approaching illness. You just did not have time to do that; then, too, there was always the thought lingering in your brain that if you did become ill you could call the doctor. But here on this island, you begin to watch for "warnings." To your surprise, you discover the first symptom of a coming illness. This symptom is fever which, you find, is always a warning of sickness. You find, also, that you feel especially warm and stuffy. Unknown to you at the time, this feeling comes because the normal temperature of your body has risen, and the sicker you become, the more the temperature rises.

If you lived on an island long enough, you might discover a few of the symptoms of illness; but in time you would learn that even necessity would not teach you how to prevent illness. You might be unable, of course, to prevent some minor illnesses; but even if you learned how to control minor illnesses, why go to an island

AND HEALTH

BY ALFRED E. PARKER

and live by yourself all your life in order to learn a small amount about keeping healthy? That would, indeed, be foolish. From many sources you can gain the information necessary for healthful living.

It is especially important for you to acquire the ability to discern the slightest warning of an oncoming illness. When you can do this, you can go one step further and administer simple first aid which will quickly restore your health. Naturally, the first moment that you notice a stuffy and warm feeling, a rise in your body temperature, you should consult a physician. If a physician is not available, go to bed and keep well covered. Too many boys, however, never heed such a warning; they keep right on with their chief interest, which in many instances is play and more play; and the body, being overtaxed, is not given a fair chance. By a little attention to these warnings when they first appear, long illnesses can frequently be prevented.

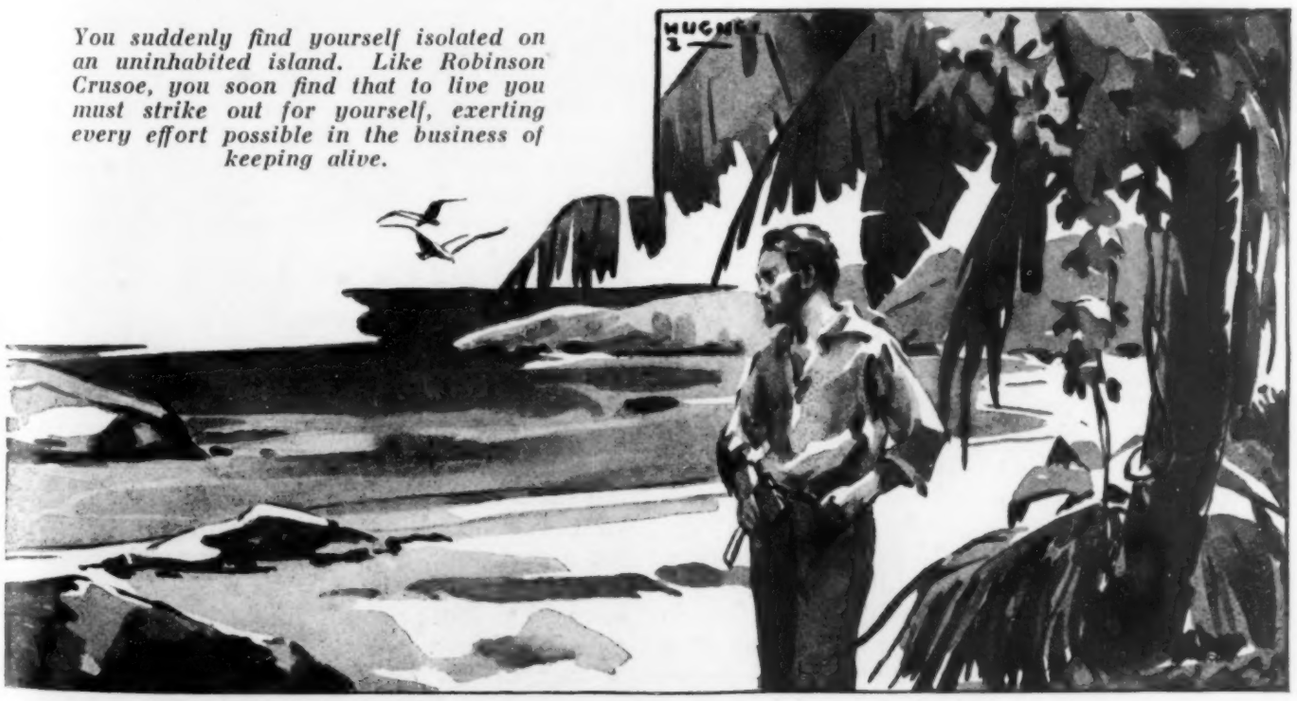
Another symptom associated with fever is hot, dry skin. If you learn to notice such symptoms, you can greatly aid the doctor by telling him of these warnings. The skin may also break out in a rash, an indication that may be a prediction of diseases such as chickenpox, measles, or in some instances smallpox. It is foolish to neglect a rash; give it immediate attention.

To be able to detect symptoms you must learn to be on the alert for all possible warnings. For example, one of Nature's ways of reminding you that something is wrong is through pain or tenderness. Such a symptom may be noticeable in rheumatism or in injured muscles or tendons. When pain occurs in the region of the abdomen, you should be exceptionally alert. If the pain persists or becomes acute, see a doctor at once, for it may be appendicitis or some other equally serious abdominal disturbance.

Another sign to watch for is shortness of breath. Shortness of breath following strenuous physical exertion and even after moderate exertion is often associated with some form of heart disease; it should always be regarded seriously, especially after one has had an infectious disease or acute rheumatism. It may mean also that there is improper circulation or trouble in the breathing apparatus.

Another common barometer is fetid breath. When it occurs, remember that it is caused by some infected center or decayed center somewhere in the body; it is your duty to try to trace it to its source. Bad breath may indicate that you have a decayed tooth, that your tonsils are decayed, that there is a catarrhal condition of the air passages or that you are suffering from indigestion. Remember, too, that bad breath is only temporarily relieved by mouth washes; mouth washes do not remove the cause; this you must do.

Similarly, sore throat is a sign to which quick attention should be given. It may be the beginning of diphtheria, or it may be caused by diseased tonsils; but in most cases it is the



You suddenly find yourself isolated on an uninhabited island. Like Robinson Crusoe, you soon find that to live you must strike out for yourself, exerting every effort possible in the business of keeping alive.

forerunner of a cold. A competent physician should be consulted in every case of sore throat because it is often the forerunner of serious disease.

When sore throat is a forerunner of a cold, you may find that you have a chilly feeling and that you sneeze frequently. To treat such a warning lightly is a folly of which a great number of boys are guilty. A cold is a serious matter. As you know, colds are more frequent during the fall and winter months.

When the first sign of a cold appears, you can administer first aid to yourself by drinking plenty of water. It will not do you any harm to drink a glass of water every hour. On retiring, take a hot drink of lemonade or milk and bathe the feet in hot water. Be careful, however, to see that you are well covered, as you will sweat a great deal after using these remedies.

A cold can often be prevented by using a little common sense. Wet clothing should be changed as soon as possible; when it is impossible to change it immediately, cover up thoroughly or keep moving. This will prevent chilling. When you know that an epidemic of colds is going around, stay away from crowded places as much as you can, for colds are most commonly spread through coughing and sneezing.

Besides the symptoms that have been mentioned, there are two or three others about which you should know. One of these is a coated tongue, which may indicate that you are constipated or that you have some digestive disorder. Indigestion is most often caused by eating too much or by eating something which disagrees with you or which digests so slowly that decay sets in before digestion is completed. This happens with some persons when they drink too much tea, coffee or cocoa with their meals. Here, again, you must be the judge. If you find by experiment that too much liquid at meals does not agree with you, then it is up to you to regulate the amount of beverages you consume.

In cases of severe indigestion the body tries to empty out the poison by vomiting or by a diarrhea. You can give first aid by helping the body in its task. You can cause vomiting by tickling the palate with a feather or by drinking a glass of water containing 1 teaspoonful of mustard. Until the indigestion is relieved, no heavy foods should be eaten. Milk in small quantities taken every three or four hours is not too heavy for the digestive tract to handle. However, it is foolish to think that alcoholic drinks will give relief; they aggravate the condition rather than give any help.

Diarrhea often accompanies indigestion. Do not be in too great a hurry to stop this condition, for it is Nature's way of ridding the body of poisons that are causing the disturbance. Severe and continued diarrhea is a condition that should be attended to by the doctor. Acute indigestion, followed by diarrhea and vomiting, is often the result of food poisoning or food infections.

Probably as common as any sign for which you should be on the lookout is headache, a condition which may have so many different causes that you may be unable to find the source of the trouble. The headache may come from eyestrain, from bad teeth, from overeating and eating indigestible food, from inflammation of the ears, nose or throat, or from disease of some of the cavities known as the sinuses, which are located in the region of the nose. All these and many other conditions may cause a headache. When it is impossible for you to discover the cause, you should, of course, consult a physician.

At the time of the headache you may be able to secure relief by hot or cold applications, such as a hot-water bag or an ice pack. A mustard plaster, made of 1 part of mustard to 4 parts of flour and mixed with water or lard to make a stiff paste, may help if applied to the back of the neck for about ten to fifteen minutes. It should be removed as soon as the skin begins to redden. In any event, do not be misled by the widely advertised headache remedies; they usually contain harmful drugs and are dangerous to use. The most sensible thing to do is to eliminate the cause when the headache is chronic.

Other first aid methods which you can take to keep yourself healthy include certain precautions for preventing disease. Flies, for example, spread dysentery. Be sure that there are no flies around your home and that all the food you eat is well covered against these pests.

Develop habits of watchful cleanliness. Avoid using a public drinking cup, and exercise care even in drinking from a public fountain, for if your lips touch the metal you may take germs into your mouth. Learn also to wash your hands thoroughly before eating, as a common method of spreading disease is by the "hand to mouth" method; always wash your hands after going to the toilet. The hands come in contact during the day with all kinds of objects that harbor germs. When you touch the food you eat, these germs can easily be transferred to the mouth.

The methods of giving first aid to yourself which are given in this chapter are written here that you may daily watch yourself and preserve your health.

You are indeed lucky. There is no need for you to live on an island where you would have to learn in the hard school of experience all the facts about keeping healthy. The facts are yours for the taking. Take them, and when you see a symptom, quickly help yourself or secure expert medical advice. By so doing, you can have what some people find so hard to secure—a healthy body.

(To be continued)

THE OLD-TIME DOCTOR

"A GLUTTON FOR SERVICE, he was loved, feared, venerated, a pilot in sickness, a friend in health. . . .

"The scope of his practice was wide, you might say boundless. He was a general practitioner, and 'general' connotes a multitude of bodily ills. . . . He must command a practical surgery as well as a practical medicine—set broken bones, reduce dislocations, sew up wounds; he must play dentist at need and extract the raging tooth. He must wait at the bedside of the expectant mother and be gifted with an obstetrical dexterity and resourcefulness. He must care for all the ills of childhood. He was anything and everything but a specialist.

"Taking into account the difficulties of travel, the territory of his practice was almost as wide as its range. At first he made his calls on horseback not without peril. Gradually as the roads got better the sawbones with fat saddle-bags became the buggy doctor or the phaeton physician.

"It was not because of his actual proficiency but because of his character that he enshrined himself in Hoosier hearts. He belonged to the whole family. He was trusted with all the secrets, knew all the sins . . . kept his counsel. . . .

"The work [of the Hoosier doctors] on the battle-field and in hospital was as merciful and unselfish as their work had been at home, and just as limited by individual ignorance and the poverty of science. With the rest of the veterans, the doctors came back to Indiana to find a new life, new conditions."

[From "A Hoosier History" by David Lawrence Chambers, based on the mural paintings of Thomas Hart Benton, portraying Indiana's part in A Century of Progress.]

Craftsmanship

Glasses of jelly and marmalade make delightful gifts, but even more useful and attractive is the little token, if the glass itself may be used after it is empty. On the bottom shelf are shown an earthenware teapot, an English china bowl, and a bouillon cup of heatproof glass with matching saucer. The measuring cup, individual covered baking dish, baked apple dish, meat pie dish and custard cups are all of heatproof glass.

WOMEN everywhere have helped welfare organizations feed hungry families and now find their cellar and cupboard shelves quite empty. Groups are being organized to can surplus food from gardens. Last year there was considerable spoilage, because many persons canned who had never canned before. A great deal more care in selecting, cleaning and heating are required when food is canned than when it is cooked for daily meals. Many community canning clubs were ill equipped for the quantities of food handled last year. Whereas a commercial canner prepares himself with the necessary information and approaches the problem in a sufficiently scientific manner so that he will not lose dollars, a great many women decided that they had a stove, some cooking utensils and empty cans, and could spare enough time to take advantage of the exceptionally low prices of fresh vegetables and fruits.

Often a small store of home-canned supplies makes precisely the difference between a well balanced and a poorly balanced meal. Breakfast, for instance, requires fruit. If the supply of grapefruit and oranges happens to be exhausted, one may open a can. A glass of grape juice or a dish of canned peaches makes an ideal light refreshment before retiring. While all good things may be bought in cans at the store, one often forgets or the supply runs low before time for the next grocery order.

Sometimes a can of food will make a whole meal. A can of sweet corn makes a delicious cream soup, with flour as thickening, and cream, milk, butter and a few drops of onion juice for flavoring. The soup is served with crisp crackers, crunchy celery and a fruit pudding dessert. An egg yolk or two may be well beaten, combined with a small quantity of the soup and mixed into the kettle just before serving, to enrich the soup and add protein. Grated cheese may be sprinkled on top; for this purpose the dry powdered Italian cheese is especially delicious.

Jars which have been opened during the summer are refilled in late fall and winter with baked beans, pumpkin sieved for pies, squash or sweet potatoes ready for unexpected guests, and other foods which might go to waste. Fruit juices drained from the whole or halved fruit are jellied with commercial pectin; orange peel and the year-round fruits are made into delicious conserves. Canned pineapple and rhubarb combine delightfully with the dried fruits.

When chickens are cheap they may be canned into white meat and dark, roast chicken and jellied chicken, or soup to serve in the sickroom during the winter. Roast beef, pork loin and other choice foods are quite as easily canned as the vegetables, provided one follows the rules of the game, using fresh, sound meat, properly cooled and kept refrigerated until cooked, carved, canned, and processed at high temperature. The pressure cooker is much safer for meats. Meats should not be stored at room temperature or luke-warm temperature, for spoilage may begin, unknown and unnoticed. Do not take any such chances with your health. Properly canned meats in tin cans are economical, convenient and wholesome.

The problem of storing, in months of plenty, food for the lean months was one which bothered the French government during the Napoleonic wars. A prize of 12,000 francs was offered to the person who developed the best method of food preservation. François Appert, a French confectioner, developed the prize-winning process, which consisted of placing food in tightly corked glass jars which were put into a bath of boiling water. While the Dutch inventor of the microscope, Leeuwenhoek, discovered microbes and saw them under

in Canning

By SUSAN BEACH

water, it remained for Louis Pasteur, a French chemist and bacteriologist, to find that microbes were responsible for disease and also that food spoilage could be reduced by killing these germs with heat. The name pasteurization was given to this process. This word, as now used, refers to heating to a comparatively low temperature; for example, milk heated to 140 F. is pasteurized. Canning requires processing of the food at a temperature not lower than boiling. The spores of some bacteria will withstand several hours of boiling; this is especially true of Clostridium botulinum, commonly known as Bacillus botulinus. This insidious, microscopic fellow can live without oxygen, and he enjoys himself particularly when sealed away with plenty of food. The organism has proteolytic action; that is, it splits protein. It softens the food and produces gas which has no odor. It also ferments carbohydrates with the production of carbon dioxide. One can usually detect spoilage in the food. The ends of tin cans are bulged instead of slightly concave. The liquid or gas spurts from the can when it is first opened, and the fact that no warning odor or unpleasant taste accompanies this form of spoilage makes it extremely dangerous. Toxin is a by-product of the growth of the bacteria that produce the illness known as botulism. This poisoning is often fatal because it is difficult for a physician to recognize it and administer antitoxin quickly enough to be effective.

Aids to craftsmanship in canning; a pressure cooker for processing cans or jars; the sealer for tin cans; a cooking scale which reads directly in cupfuls as well as in pounds; a rack for the jelly bag; bowls with rolled rims, easy to grip; and a combination funnel, which has (1) a solid inset to use for measuring 2 cupfuls or fractions thereof; (2) a coarse and a fine sieve for straining, and (3) a small opening for filling bottles, all of which fit into the bottom of the cup and are held in place with the rim which screws in place.

The infection of food with this organism occurs in the soil in which it is grown, and while some areas are comparatively free from it, reports of outbreaks of botulism have come from many different states and have increased in the past ten years. Since 1925 there has been no record of a case of botulism that has been caused by commercially canned food. This probably is due to the fact that commercial canners process foods under steam pressure at temperatures higher than those possible in an ordinary kettle or boiler in the home.

Surgical cleanliness is practically unknown in the home, although a mother may have experienced a few weeks of boiling bottles, nipples and drinking water before her young infant succeeds in crawling about and in putting everything into his mouth. However, surgical cleanliness would prevent the introduction of needless bacteria of various kinds into the food as canned. Chemical preservatives or canning compounds are harmful and unnecessary.

The procedure for successful canning is, briefly, as follows: If you are in charge of a crew of welfare workers who are canning foods grown on vacant lots this year, stress cleanliness! The food is gathered fresh and firm and is in excellent condition. It is useless to can food which is partially decayed; cutting out the spots does not assure safe keeping of the part that appears to be good. Sunburned tomatoes do not usually keep. Foodstuffs should not lie in the garden or market several hours before being canned. Freshness is essential to good keeping. Before cutting the surface, scrub vegetables thoroughly in running water, if possible, with a good stout scrubbing brush. Peel, cut and prepare the vegetables as for table use and cook them immediately. When completely and thoroughly heated to the boiling point, put them

into clean hot jars and seal them tightly. The tin can sealer does this admirably. The directions for operation of the sealer are easily followed; the special advantages of tin cans are the positive safe seal, and the possibility of stacking the cans on top of one another in the canner and of plunging them into cold water for quick cooling afterward.

If you are canning the food in glass jars, put new rubber jar rings in place, fill the jars with hot food, seal tightly and put them into a hot canner to avoid breakage. Remove the jars to a wooden table, wire rack or folded towel, instead of placing the hot jars directly on a cold metal-topped table. Immediately on removal from the canner, make sure that the seal is tight. The hot pack is recommended for all vegetables.

Tomatoes and fruits contain natural fruit acid; hence they are less likely to spoil. They may be packed cold and half-sealed before processing, and the seal may be completed afterward, if glass jars are used.

If a wash boiler or deep kettle is used for processing, make sure that the water comes from 1 to 2 inches above the tops of the jars, that the jars are well separated from one another and from the bottom of the kettle by a wire rack, and that the water is kept at a full rolling boil during the entire processing time. If a waterless cooker or steamer is used, make sure that the lid fits tightly with a place for steam to escape in a steady stream during the entire period. The water should boil hard and cover the bottom of the cooker.

The pressure cooker allows one to cook food at a higher temperature, which assures a greater destruction of the microorganisms. If a pressure cooker is used, be sure that the water completely covers the bottom and is boiling hard when the jars are placed on the trivet which holds them off the bottom of the cooker. Clamp the cover in place immediately, and leave the petcock open until a steady stream of steam flows out before closing it and allowing the pressure to increase. Use a hot fire to raise the pressure quickly to the desired point, start counting time, and lower the fire to maintain the pressure. If glass jars are used, let the pressure run to zero without opening the petcock. If tins are used, open the petcock wide to let out the steam immediately.

In ordinary cooking, the petcock is nearly always left closed until the pressure has gone down to zero, in order to conserve food flavor which might be let out in the steam. The pressure must always be at zero before the lid is unclamped. The smaller sizes are practical for everyday cooking. Some doctors' offices use a pressure cooker for sterilizing surgical instruments and garments.

Jars removed from the canner are cooled quickly, wiped clean, labeled, and stored in a cool, clean, dry, well ventilated place. If sufficiently processed, the jars do not require a cool storage room. Moisture and dust are liable to cause the formation of mold on jar rubbers, but these can be washed and wiped dry. Mold does not occur inside the jar while the seal is tight. Flat sour, a type of spoilage, may occur inside the tightly sealed jar as a result of holding the food at a temperature favorable to the growth of bacteria. This may occur if the food

Recipes

Carrot Conserve

1 quart chopped fresh carrots
1 orange
1 lemon
3 cupfuls water
3 cupfuls sugar

Press the fresh raw carrots through a food chopper; then measure the grated carrot. Put the orange and lemon, including the rind, through the chopper. Add the water, place the mixture over a slow fire and cook (about one hour to one hour and a half) until all ingredients are tender. Add the sugar and cook slowly for about an hour, until the mixture becomes thick like jam. Stir constantly toward the end of the time to prevent the conserve from sticking to the preserving kettle. Pour the conserve into clean glasses and cover with paraffin.

Prune Tomato Conserve

1 cupful cooked tomatoes
1 cupful tomato juice
2 cupfuls prunes
1½ cupfuls sugar
2 4-inch pieces stick cinnamon
½ teaspoonful whole cloves
½ teaspoonful salt
2 tablespoonfuls lemon juice
1 teaspoonful grated lemon rind

Boil the prunes for fifteen minutes in sufficient water to cover; drain, remove the pits and cut the prunes in pieces. Add the prunes to the tomatoes, tomato juice, sugar, cinnamon, cloves, salt, lemon juice and rind. Boil this mixture about thirty-five minutes. Stir it often to prevent burning. Remove the cinnamon. Pour the mixture into hot glasses and when cool, seal them with paraffin.

Grapefruit Orange Marmalade

1 cupful orange juice
½ cupful grapefruit juice
½ cupful thinly sliced orange peel
6½ cupfuls sugar
1 cupful liquid pectin

Extract the fruit juice, strain it through muslin and cook it immediately with sugar and pectin. Slice the yellow portion of the peel thinly off the orange and cut it into strips with scissors. Cook strips until they are tender without losing their shape. Add them to the mixture. When this barely sheets from the spoon, pour it into glasses. Place the glasses on the window sill a few days so that the sun may cook and thicken the marmalade.

Canned Peaches and Pears

To make a syrup for green, firm fruit, boil together 1 cupful of sugar, 2 cupfuls of water and ⅓ cupful of seedless raisins for five minutes. Remove the raisins. This amount is sufficient for 3 pints of fruit. For cold pack peaches or pears, wash, pare and remove the pits or cores from the fruit. Pack halves in the can with the round side up. Fill the jar with the syrup. Screw the cover on with the thumb and little finger; if a glass top is used, do not put the second bail down. Process for twenty minutes in boiling water. Remove from the water, and tighten the covers.

is not cooked immediately or is not properly refrigerated after harvesting. It may occur if the food is not packed immediately into jars and processed after heating or if it is cooled too slowly after processing. Attempting to tighten a screw top further may break the seal which was formed; jars are cooled in an upright position.

Jams and jellies satisfy the child's sweet tooth with fruit sugar and fruit acid as well as granulated sugar, which is often the sole ingredient of candies. These fruit products add color and variety to the meal. The rare fruits may be extended with common, less expensive ones. For attractive products it is necessary to weigh the ingredients carefully and cook them quickly. Long, slow cooking dissipates the flavor. For clear jelly, never squeeze the jelly bag. Select a heavy kettle which is wide, for quick evaporation, and deep, to prevent boiling over. Any of the common cooking utensils are suitable for use with fruits except uncoated iron, steel and tin utensils, which are subject to rust. Steel coated with enamel, chrome-plated iron, rustless steel or allegheny metal, and aluminum are suitable. The utensil should have a lip for easy pouring without spattering the sides of the jelly glasses.

The fruit may be prepared a pint at a time, cooked in the syrup and packed into boiled jars, covered with boiled lids, tightly screwed. In using the open kettle method, be careful to have everything boiled that touches the cooked food. When putting boiled food into freshly boiled jars, one is likely to introduce bacteria from the air; this is why the method is used only with fruits.

To tell whether a jam or marmalade is done, let a spoonful drip back into the pan and notice the thickness. It should "sheet" off the spoon.

In recipes requiring liquid pectin, one may often find that the jelly will not set for several weeks but will be of a fine texture at that time. If desired for immediate use, it may be cooked just long enough barely to sheet off the spoon.

The product may be processed like canned fruit, but if it is cooked down until thick and jellied, the high percentage of sugar and fruit acid makes an unfavorable medium for growth of any micro-organisms except mold; to prevent the growth of mold, the surface is covered with clean melted paraffin as soon as the glasses are filled, and another coat is poured on afterward and allowed to run around the edges when the glasses are tipped. A circle of paper is pasted over the top to keep dust off the paraffin.

November Hygeia Brings Much For Which to Be Thankful

For the Young Mother.—A new series of articles, entitled "Before Baby Is Two," in which *Katherine Brownell Oettinger* gives guide-posts to mental health in infancy and discusses the physiologic and psychologic problems that cause so much perplexity. This series is not exclusively for mothers, for as Mrs. Oettinger states: "A child has more than one parent. Fathers and mothers . . . should think now about the kind of person they want to help their baby become. Parents need to have much the same ideas, or the baby will get nowhere by being pulled first one way and then the other."

For the Middle Aged.—A consoling article by *Dr. J. Robert Burke* who, in writing of "First Eyeglasses at Middle Age," assures the reader that he "should not feel too depressed when the time arrives, as it happens to every one—kings, queens, school teachers, screen beauties, magnates and paupers."

For Women, Young and Old.—A new group of articles by *Dr. Charles Lerner* on that subject of perennial interest to every woman, "Feminine Beautification: A Quest from Ancient to Modern Times." History does, indeed, repeat itself, for according to Dr. Lerner, "Woman of the earliest days soon became aware that beauty was like a magnet to the male, and she hesitated at nothing to accomplish her aim, often submitting to many long and torturous proceedings and undergoing treatment with the most nauseating and repulsive concoctions."

For "Boys," Young and Old.—A discussion by *Alfred E. Parker* on "Training for Football."

For the Housewife.—Doris W. McCray continues her outline of the work of the Committee on Foods of the American Medical Association, discussing the Committee's decisions in regard to that important product, bread.

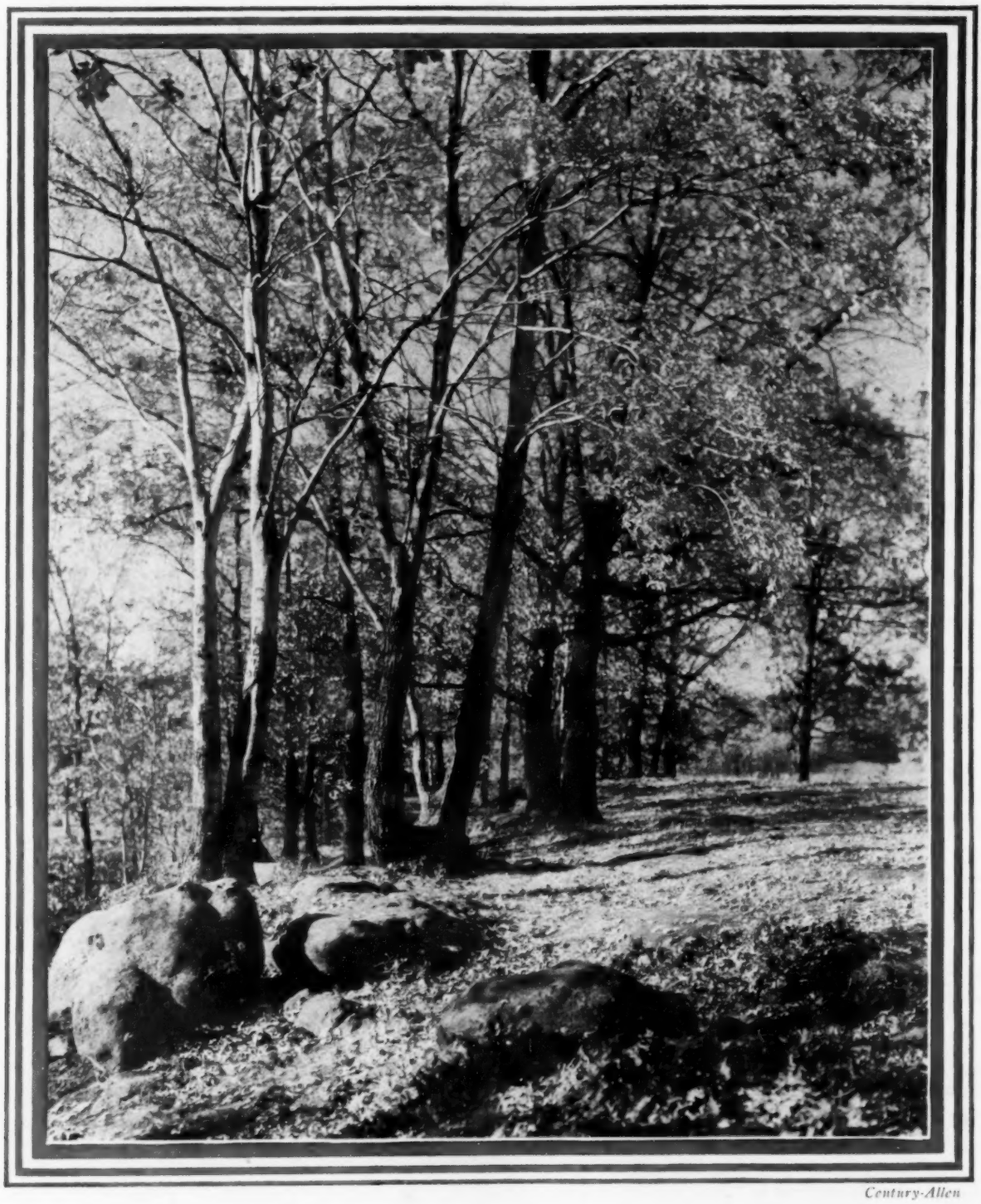
For Parents.—Dr. Thurman B. Rice's delineation of the sex education of the school child, who "is no longer under the eye of his parents." He will hear and learn of sex. "The pertinent question," Dr. Rice declares, "is not, 'Will he learn?' but, rather, 'Where and of whom will he learn?' . . . An important matter during this period is the teaching of a fine sense of modesty without at the same time teaching shame."

For Every One.—Dr. Rachel Ash discusses the merits of the advice, "Stop That Cough!" "Early in the fall," writes Dr. Ash, "there springs into being a lusty crop of advertisements stressing the merits of this or that 'patent medicine' guaranteed to perform the modern miracle of checking all coughs regardless of their origin. Is it always advisable to stop that cough? Cough is Nature's effort to remove irritating substances from the respiratory tract."

Dr. Smiley Blanton brings assurance that there is hope for the chronic worrier, whether he is a child or an adult, or whether his fears are classed as mild anxieties or worries or as the more obsessive fears.

For the Children—Ivah Simpson's story of "The Jolly Juice Twins," Tommy Tomato Juice and Ora Orange Juice. There are patterns, too, so that the Jolly Juice Twins may make your Thanksgiving table festive.

For November, *Dr. Oscar Reiss* and *Dorothy W. Baruch* contribute an especially appropriate chapter, "What Happens When You Eat." This is the third chapter of their series, "I Want to Know."



Century-Allen

October:
A design of leaves against a blue sky—
Bright leaves,
Brown dead leaves
Clinging to brittle branches
Or piling themselves in dry rustling heaps
To be scattered by a passing breeze
Along a dusty path
Winding its way
Between boulders and half buried roots.
October:
The month of leaves.

FRANCES G. KLAN.

Sex Education:

IV.

The Teaching of Sex to the Young Child

By

THURMAN B. RICE

H. Armstrong Roberts

ONE needs hardly to point out that the process which brings an innocent child into the world and reproduces the species is inherently clean. The parent who attempts to instruct a child in the marvels of sex must thoroughly convert himself to a firm belief in this fact, self evident though it may seem. The process is right, and the child is pure. If, then, there is anything wrong about it, the difficulty must lie in the parent or his understanding of the situation. Let him who seeks to set a child on the safe road thoroughly prepare himself in regard to the facts involved and let him make sure that he is fit to handle a clean subject in such a way that it will remain clean.

It is most unfortunate for the sake of the child that one cannot assume that persons about to become parents have become familiar with the fundamental facts concerning the process which has brought the child into existence. Even before marriage they should have talked over these matters and have sought to learn through legitimate channels the facts about so important a matter. Surely there is no further excuse for hesitancy after marriage. During the months between conception and the birth, there are many reasons why intelligent persons would wish to know something of what is happening. Between the time of birth and the asking of the first question, there is a period of from two to four years, during which one might well be expected to prepare oneself for the time when the child will want to know something of vital matters; and yet a large percentage of parents find themselves utterly unprepared for the inevitable time when the intelligent child begins to ask questions. Mothers are shocked when the first question is asked. They seem to think that the child is still a babe in arms. Fathers tell the distressed mothers to explain matters to the children, but usually they have no suggestions as to what to tell or how to tell it.

Long before it is time to begin to teach the child by word of mouth about these matters, there are other responsibilities which must be met. Within the first few days of life the genital organs of the baby should be carefully examined for evidence of defects or abnormalities. In case such defects are found, they should be corrected when possible, as such peculiarities are often responsible for irritations or abnormal stimulations which may greatly complicate the sexual life of the child when he or she is older. The tissues of the infant are still plastic, and it frequently happens that corrections made early are unusually successful for this reason.

The boy baby should be carefully examined to see whether he needs circumcision. If the foreskin can be completely and easily retracted, most authorities think that circumcision should not be done; but when there is the least doubt about the matter, decision should be made in favor of the operation, which is a trivial one

when done within the first week or two of life. When the foreskin is tight or adherent, secretions which will produce bad odors and cause pain and itching will accumulate under it. Under these conditions a child is liable to get into the ugly habit of pulling at and handling the genitals, and he may develop habits which are harmful and unsightly. In case circumcision is not done, the mother or nurse should carefully retract the foreskin each day and see that the organ is thoroughly clean. Many nervous, restless and fidgety boys can be helped by circumcision, provided such care is needed.

At an early age, boys should also be examined to determine whether or not the testicles have descended into the scrotum. These essential organs of sex are developed in the abdominal cavity, but at the time of birth or rather soon thereafter they should have descended. If they can be felt in the scrotum or can be gently pressed down into the scrotum, there is no need for apprehension. If, however, they cannot be found, attention should be given to the matter, without causing too much curiosity on the part of the child, and the advice of a physician should be obtained. If descent does not take place, an operation to transplant the testicle into the scrotum should be performed before the boy reaches puberty. Undescended testicles commonly atrophy, and if both are in this condition, sterility may result.

Care in Infancy Safeguards Maturity

The girl baby also should be carefully examined for abnormalities. In not a few instances she may be in need of an operation which is essentially the same as that of circumcision in the male. Other defects may be present. In the washing of the female infant, care must be taken. Sometimes the hymen may be ruptured by rough handling. While it is true that the presence of an intact hymen is by no means proof of virginity, or the absence of it proof of sexual experience, there is still a large percentage of persons who believe that such is the case; hence care must be taken to prevent an accident which might later put the babe, grown to womanhood, in an embarrassing position. Washing of the parts should be done in such a way that the friction will not cause erotic stimulation and in this way lead the child to the habit of playing with herself.

It is well known that crying babies, male and female, will nearly invariably hush when the genital organs are manipulated. This is an old trick of careless nurses and ignorant mothers. Under no circumstances must it be practiced, as it may lead promptly to the practice of masturbation. I do not wish to discuss masturbation at this time; but in this connection I must say that it is probably far less harmful than has been supposed, but it is certainly an ugly habit, and every reasonable means of preventing it from establishing itself should be taken. It is doubtful whether mothers have often practiced such means of quieting their babies, but others to whom the child may have been entrusted have been less conscientious. The routine care of a child should never be delegated to some one else when it is physically possible for the mother to see to it herself.

Health Is Foundation for Normal Sex Reactions

During the period when the child is too young to be given definite instruction, much can be done to lay the foundation for sound health and useful habits. The child who learns cleanliness and regularity of body function will be much more likely to respect the purposes of the reproductive system when grown than will a person who as a child was permitted to abuse or neglect the various bodily functions. The strictly normal individual is less likely to develop improper habits or perversions than the one who suffers from various biases or abnormalities. Childhood is the time for health training, and health is the sound base on which rest normal reactions with regard to sex.

Much of the difficulty in teaching and training children in these matters is due to the mistaken idea that children do not manifest interest in such subjects until they are several years old. Sex is far too fundamental to lie dormant for so long a time. The excretory organs are inseparably related to it and, indeed, it has its effect on the entire body. Regularity in sleep, in eating and in going to the toilet, pleasant manners and polite speech, love of beauty, truth and decency, play in the open air, development of a natural attitude toward other children, modesty and respect for one's self are all developed in large measure, if they are developed at all, before the child is 4 years old. Every one of these traits is of the greatest value in the development of an admirable sex life. It is hard to see how the child who hears and sees vulgarity and lives as a waif can get a fair start in the understanding of so pure a subject.

Great care will be needed in teaching the child that the social conventions are necessary without instilling in him or her the idea that the sexual organs are ugly, unclean or sinful. The nude baby is proudly exhibited to admiring relatives and friends; the nude child of 4 is to be seen by the family only, and the boy or girl of 8 is expected to be careful about such matters even in the bosom of the family. A fine sense of modesty is of the utmost consequence in the social training of the child. On the other hand, there are times, as when medical examinations must be made, when what has been called modesty is really prudery. The development of poise in these fine qualities is of the utmost consequence. It can be taught only when the child has been led to regard the sexual apparatus with respect rather than with shame.

Dignity and modesty are closely allied here as elsewhere. The child is made to understand that there are some things that are sacred and for that reason are not to be cast before swine; there are some things so fine that they must not be permitted to become common. The child is shown that grown-ups, men and women, cover themselves, and that if he or she would be like them, he or she must do so as well. Reserve rather than shame, pride in something that is too important to be left lying around is the motive to be emphasized.

Many of the difficulties attendant on the teaching of sex are immediately solved when the child is taught the proper, the dignified name for the parts of the body. It would be hard to understand how a child could use the vulgar names which are commonly heard, without deterioration of dignity and respect. Hardly better are the baby names and the meaningless terms which are often given in the vain attempt on the part of the mother to save the child from what she supposes to be vulgarity. The child must acquire a dignified vocabulary if he is to keep the subject clean. It is hard to see why it should be more embarrassing to the mother to have the child come to her saying that he wishes to go to the toilet than to have him use some of the other expressions that are equally evident in their meaning under the circumstances. A frank acknowledgment of these things and their meanings is the basis of future understanding of them. Hypocrisy and prudery have had their day and have made a mess of it.

"Example Is the School of Mankind"

During this impressionable period of life the attitude of the father and mother toward each other will have a profound effect on the character and sexual behavior of the child in later life. The child who sees his father treat his mother with chivalry and respect is much more likely later to treat girls and women in the same way. The little girl who sees in her own mother a beautiful character is unconsciously receiving an education in these matters which is infinitely more effective than all the carefully planned precepts which might be memorized from books or articles on sex education.

However, while it is really the generalities which count in the training of a child, it is the details which are more perplexing to the parent in charge. This is because the details have a way of demanding immediate attention. What shall the mother or the father tell the child when he asks the highly pertinent and searching questions which have perplexed parents for so long? There is but one thing to tell him. It is the truth. By this I do not mean that it is necessary to tell a child of 4 the entire truth or that it is necessary to give him the detailed truth. As a matter of fact, that would be impossible; for not even the wisest man knows the entire or the detailed truth about these matters. When the child asks a question, he does not expect the scientifically correct answer; but in later life he will greatly appreciate the fact that he was told the truth so far as he was able to understand it at the time.

Whatever is done or taught, the idealism of the child must be preserved.

Natural Facts Should Be Naturally Told

When the child notices the difference between his or her body and that of the opposite sex, it is an easy matter to explain that there are two sorts of people, and two sorts of everything else that is alive. This is so that each little child and each little baby animal may have a father and a mother to care for him and make a home for him. It is pointed out that the male and the female birds of certain kinds are unlike in color and appearance and that there are differences in function which correspond to this difference in appearance. By all means arrange to have the child see a bird's nest if possible, and explain something of what goes on there. He will have observed that fathers and mothers have different purposes in life and that there are appreciable differences in dress, in habit and in occupation. The whole process is perfectly natural, and when it is naturally told to a normal child it will not give rise to any morbid curiosity whatever. It is merely an interesting fact about the most interesting thing in the world, life.

A momentous question is, "Where did baby come from?" It is a question that every child should have asked by the time he is 4 or 5 years old. The most ridiculous substitutes for the beautiful truth have been given him, and most of them are extremely unconvincing. What a pity that mothers have seen fit to tell children that babies are found in garbage pails, in the straw pile back of the barn, under the leaves in the woods, in a hollow log, in the doctor's satchel and in other monstrous places. Hardly better is the "made in Germany" story of the stork except that it is somewhat more dignified. The children of Germany love and respect the stork, but the small children of this country know nothing of such a creature. I vividly remember my own anxiety over the origin of a neighbor's baby. I was told one tale while the sisters of the baby were told quite a different one, equally false. When we compared stories the next day it was obvious even to our 4 year old minds that something was wrong. We had gone to our parents asking for bread and had been given a stone. In the most important relation of our lives we had been given a false start by those who loved us most.

Straightforward Explanation Wins Confidence

Children are invariably tremendously interested in babies and ask their parents whether they may have a baby brother or sister. They do not see any evil in the possibility, as, indeed, there is none. A 7 year old child was taken into the confidence of her parents and told that she was soon to have a little playmate. She was delighted, of course. It was explained that the child originated as a result of the love of the father and the mother for each other and for the baby and that the baby was at that moment in the body of the mother. She was told that the baby would be kept warm and safe there until he was large enough and strong enough to live outside and then he would be born through the vagina of the mother and would be fed from her breasts until he was large enough to sit at the table and eat with the other members of the family. The child was greatly flattered that she had been taken into the confidence of her parents and was enormously impressed with the wonder of it all. She was shown that the matter was of the greatest possible consequence and importance; therefore it was something that should be kept as a wonderful secret, not to be discussed lightly or frivolously.

As might be expected, the child went far beyond the parents in idealism. She was told that many silly persons tell foolish stories about such matters and that she should always come to her own dear parents when she wanted the correct information on all such subjects. She was amazed to learn that any one could believe that doctors bring babies in their satchels.

"Why," said she, perfectly logically, "if the doctor brought the baby in his satchel, it would belong to us or to just any one to whose house he happened to go; but this way it's really our baby, isn't it?" The parents were able to assure her that it really was "our baby," that she had come from the same source and that they were all bound together by insoluble ties of the greatest tenderness.

"To the Pure All Things Are Pure"

The question that is most dreaded is, "How did the baby get in the mother's body?" Here is something that is supposed to be hopelessly vulgar. Well, for those who think it is so, I can understand that the problem is difficult. When, however, the father and the mother have loved each other as they should, the act that is the expression of that love and the act that enables them to bear beautiful children is not vulgar in any sense. The child—bear in mind that this is a young child—can be told that, as a result of the love which the parents bear for each other and for the child, the baby began to grow in the body of the mother. An older child will need more information, to be sure, but this is as essentially the truth as is the most tediously accurate and scientific account of the union of egg cells and sperms.

The difficulty of explaining the rôle of the father will fade into nothing at all if the child believes that his father is a great hero who can do no wrong. When the child has seen his father caressing the mother, he can readily realize that nothing could be more natural, as indeed nothing is more natural, than that they should desire and have children. It is most unfortunate that so many fathers live and treat their families in such a way that the children may learn to know that their acts are selfish. In such case the teaching of sex will be difficult. In the main, however, small children believe that their fathers are great persons, indeed, and that whatever they do is just right; in such a case nothing could be easier than proper instruction in these matters. The rôle of the mother is easily taught. As it is perfectly natural for the child to develop in the mother's body, it is perfectly natural that the child should accept the method as the ancient and honored way of life; and that is all there is to it.

When the child asks the details of birth, as a child rarely will, care must be taken that he is not frightened by morbid details. No small child can understand the forces which come into play in such an event. It is a serious mistake to worry him with the harrowing details. It is enough that the mother worked hard and is very tired. She needs to rest and must be shown every possible deference and affection.

The most important principle in the training of a small child in these matters is that the native curiosity of the *(Continued on page 954)*

THE ENCHANTED ISLAND

The children's playground at A Century of Progress, where the world of story book and adventure becomes real

The Magic Mountain on the Enchanted Island is a big slide. How does that look to you, boys and girls?

The official greeter with the big plume on his hat is 7 feet tall. It is easy to find him towering above everybody.

And here, boys and girls, are your favorite characters from "The Wizard of Oz." Of course they have a place on the Enchanted Island.

Century-Korth

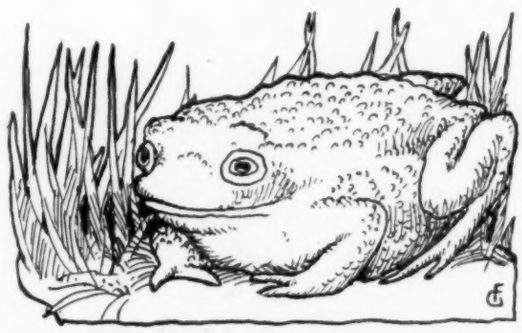
I Want to Know

A FIRST PHYSIOLOGY

By Oscar Reiss
and
Dorothy Walter Baruch

II. THE PARTS OF YOU THAT YOU SEE ALL THE TIME

WHEN you look at a canary bird you see yellow feathers covering the outside of him; when you look at a bear you see coarse black hair; when you look at a toad you see grayish, lumpy, warty skin. When you look at yourself, you see skin too, but you say, "Thank goodness, my skin is much better looking than a toad's."



When you look at a toad you see grayish, lumpy, warty skin.

Even if it is prettier, your skin does just as many things for you as the toad's skin does for the toad. It serviceably protects the inside parts of your body.

If you have ever gone to a candy store and picked out some marshmallows and lemon drops and chocolates to take home, you have watched the salesgirl put these into a bag, and you have known that the bag would protect the candies and keep them clean so that dust and dirt would not get all over them.

So, too, the skin keeps dust and dirt and all kinds of other things from getting at the deeper tissues which it covers. If you happen to scrape your knee in climbing against a rough board, you notice at once that the skin no longer covers the tissues at the cut place, and you paint on a certain kind of red or brown medicine to kill any germs that might try to find a way in through the cut. But you would never ordinarily paint your legs or face or arms to keep out the germs. That would be too silly, for your skin is already there to do it. Your skin is there as protection. You could stand out in a storm and let it "rain cats and dogs" on your skin without any of the water running through to the inside of you where it would get mixed up with a lot of other fluids and make quite a mess.

One thing you cannot see about your skin is that it is made up of several layers, one on top of the other, somewhat like the layers of a cake. The underneath layer is supplied with blood and is made up of living cells. But the outer layer does not have any blood supply and is made up of dead cells. So if you scratch yourself but do not bleed, you will know that you have only broken through the outer layer of skin.

The barber takes off the oldest part of your hair and leaves the growing part at the roots.

The dead skin is being constantly shed. You have noticed shedding skin after you have been sunburnt and an extra amount is peeling off. As a rule you cannot see the

shedding or notice any bare spots, because the live cells underneath are constantly growing and dying and so making new dead cells on top again.

Your nails are made of dead cells too.

"But," questioned Jerry, "if nails are dead, how do they grow?"

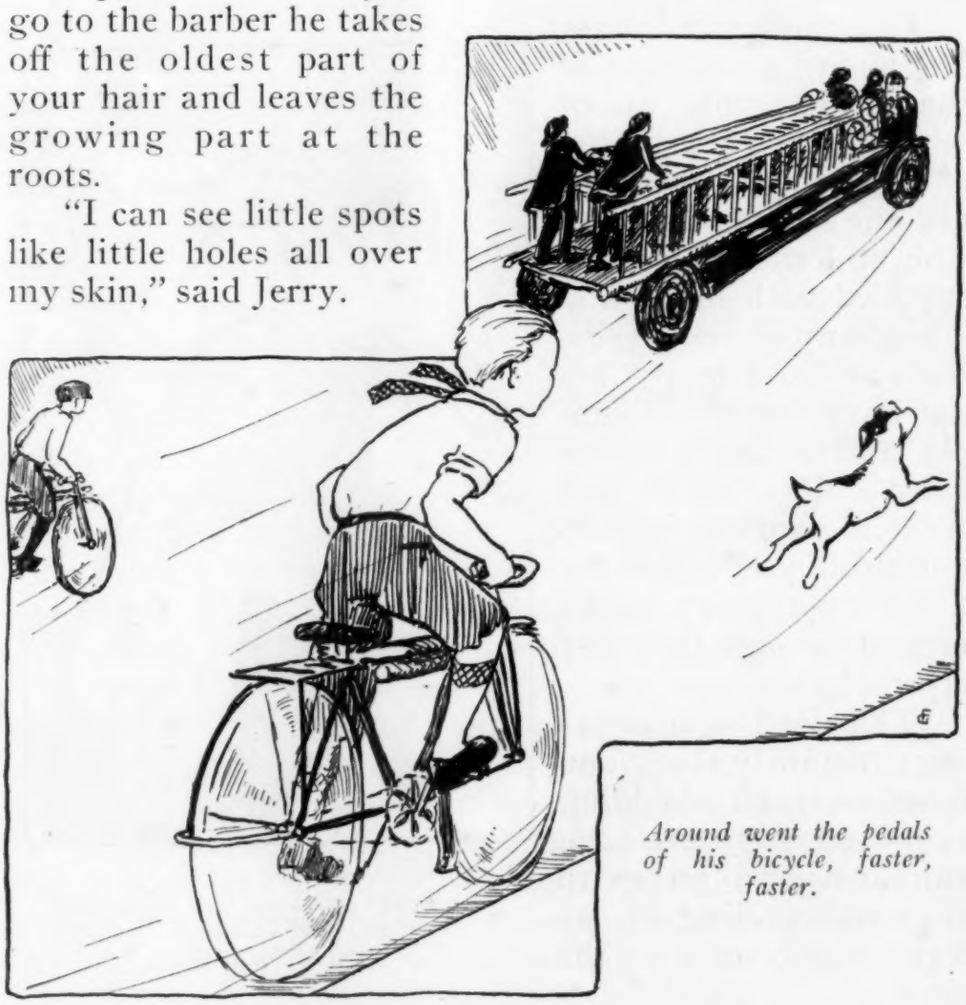
"And they do grow," put in Jean. "Mine have to be cut every week. They're a nuisance!"

Whereupon John thoughtfully added, "Yes, they grow from the top, longer and longer."

But nails do not grow from the top. The dead horny cells get pushed out from the bottom, where the finger nail begins.

Hair, too, grows from the bottom and has dead cells on top, so that when you go to the barber he takes off the oldest part of your hair and leaves the growing part at the roots.

"I can see little spots like little holes all over my skin," said Jerry.



Around went the pedals of his bicycle, faster, faster.

You have watched the salesgirl put the candies into a bag.

So can you. They are called pores. They are the tiny faucets of the sweat glands. They let out from inside the body some of the water the body has not used. It is called perspiration.

Perhaps if you have noticed, you may think you perspire only under your arms and in the palms of your hands and on the soles of your feet and on your forehead. You perspire more in those places than in others. But you actually perspire all over your body all the time even though you do not notice it. Enough perspiration is given off by your body to fill from four to five ordinary glasses every single day. Doesn't that sound almost impossible? But it is true. At times you perspire more. You perspire most when you exercise violently, when it is hot, when you hurt yourself and when you happen to be afraid.

There is a story about a boy who, while riding along on his bicycle, suddenly heard a siren screech. A fire engine rushed by. He just had to follow it. Around went the pedals of his bicycle, faster, faster. It was very hot. He became dripping wet. But the fire had been a false alarm, so he rode on home. When his mother saw him she put up her hands and cried, "Well, and I guess you had to stand right in front of the hose—you're that wet!"

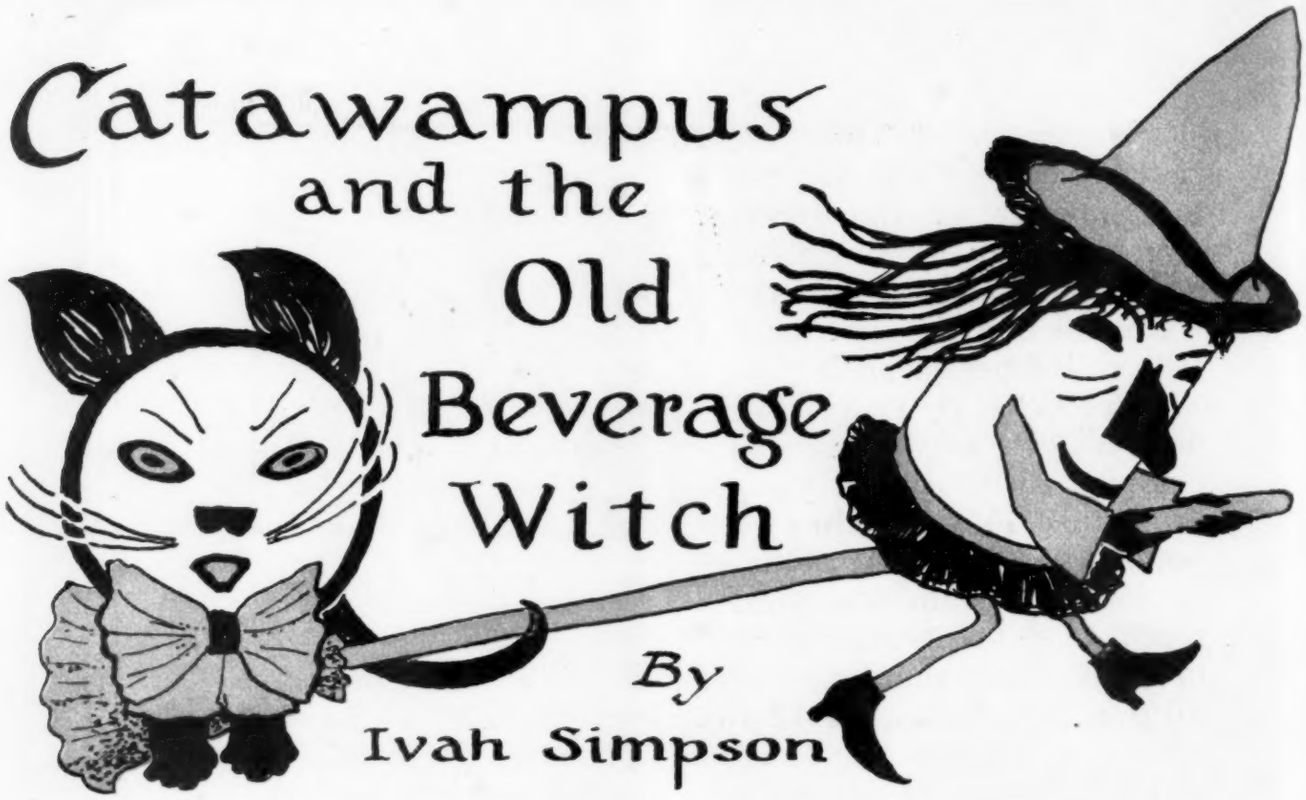
Besides perspiration there is another kind of liquid which the skin gives off. It is oil. There are oil glands all over in the skin except in the palms of the hands and the soles of the feet. For one thing, the oil keeps the skin from losing water too quickly. In the ear, curiously, these oil glands manufacture wax.

"And on my nose," said Jean, "they make me shine."

And so they do, probably often, on your nose too.

(To be continued)

Catawampus and the Old Beverage Witch



By Ivah Simpson

"MEOW! Meow! Meow!" shrieked Catawampus, the little black cat, in terror. "What's the matter with you?" screeched the Old Beverage Witch as she turned and looked at him over her shoulder.

"I'm sc-sc-scared," he answered in a shaking little voice. "You're driving so fast it makes me dizzy."

"That's nothing," she cackled. "Hold on tight, for we're going to ride faster than the wind. We've a long journey ahead of us, and we must not be late."

"Where are we going?" asked the little cat.

"To Betty Jane's Hallowe'en party," she answered.

"No! No!" he cried. "I don't want to go! I don't like parties!"

"Don't like parties!" she screeched in astonishment. "Good gracious! Why not?"

"I hate games," he declared flatly, "especially that old thing called Cat and the Mouse. I always have to run and run and run. And even if I catch the old mouse, I never get to eat him."

"Oh," she sputtered in disgust, "you're always thinking about something to eat."

"I am not!" he protested indignantly. "I don't like those other old games either—Pussy Wants A Corner, Poor Pussy and . . ."

But just then he caught his breath with a sharp gasp, for the old witch's broom began to rise higher and higher. They went so fast that the wind whistled through his little black whiskers and bent them almost double. He was so frightened that the fur on his back and his long black tail bristled and stood straight up.

He peeped around at the old witch, and she looked so queer that he could not keep from laughing. She was grinning from ear to ear. Her long black hair streamed out behind, and her big orange sleeves and her full black skirt fluttered and flapped.

"Hi yi!" she suddenly screeched at him. "Hold on tight!"

Then the broom began to dip downward. And down they went, faster and faster.

But the old witch knew exactly how to handle that broom, and before Catawampus realized what had happened, they were sitting safe and sound on the ledge of a window.

"Where are we?" he asked in a small voice.

"We're at Betty Jane's house, of course," she snapped.

"But I told you," he whined, "I don't like parties. I hate games, and . . ."

"Now, Catawampus," she cut in sharply, "stop whining. We aren't here to play games. We're going to work. Betty Jane's mother has asked us to serve the refreshments."

"Oh," he said, pricking up his ears and beginning to sniff, "that's different." And he slid off the broom at once.

"Tee-hee-hee!" she cackled derisively. "That proves it."

"Proves what?" he asked, a bit puzzled.

"Proves that you're always thinking about something to eat," she answered triumphantly.

"Why . . . why," he stammered, "I only meant that—that I'm glad we don't have to play games."

"Ho! Ho! That's a good one."

Then he grinned back at her and asked good-naturedly, "What kind of refreshments are we going to serve?"

"I don't know," she returned, "but this is a Hallowe'en party, so what would you guess?"

"Um-m," he observed after thinking a minute or two, "I think, perhaps, there'll be coffee or sweet cider to drink, and doughnuts or pumpkin pie to eat. And," he added shaking his head gloomily, "I don't like a single one of them."

"My stars!" she exclaimed in astonishment. "Coffee, cider, doughnuts and pumpkin pie are not proper refreshments for children, and you know it well enough."

"Oh, of course, I know they aren't," he admitted quite meekly, "but what else is suitable for a Hallowe'en party?"

"Come on," she commanded, "we'll find out."

As they landed on the kitchen table in front of the window, the old witch's shoes made such a clatter that it startled Cook, who whirled around quickly. When she saw who it was, she smiled at them and called out, "Oh, hello, there!" Then she glanced at the clock and said, "You're right on time to the very minute; but there's much to be done, and we'll have to work fast."

"What are we going to serve?" asked the little cat eagerly.

"Why," said Cook smiling at him, "you may serve the little pumpkin-face cakes, and Old Witch . . ."

"What are pumpkin-face cakes?" Catawampus interrupted.

"Don't you know?" she asked in surprise.

"No," he said sulkily, "I don't eat cake, and I should think you wouldn't let the children eat it, either."

"Dear me," she replied laughing, "these little cakes are quite wholesome. The children will love them too, for as you see, I've covered the cakes with orange icing and made faces on them with raisins."

"Ha-ha!" the little cat burst out laughing. "I see now why you call them pumpkin-face cakes, and of course, they're just the thing for a Hallowe'en party." Then all at once he looked grave and said, "But I don't see how I am going to serve them."

"Couldn't you carry them in your coat pocket?" she asked.

"Yes, indeed," he cried happily. "Where are they?"

She put them on the kitchen table before him, and as he was putting them in his pockets, the old witch began to pound on the table impatiently.

"My whiskers!" said the little cat in disgust. "Why did you bring that old broom in here?"

"Because," she scowled, "this is Hallowe'en, and I dare say if I left it outside, some one would hide it. Then how would we ever get home?"

"I hadn't thought of that," he replied meekly.

"Humph!" she sputtered, "You never . . ."

But Cook broke in hastily, "Listen, Old Witch, I want you to serve the beverage. You may pass it around in that magic cup of yours."

"Is she going to serve milk?" asked the cat, licking his lips hungrily.

"No," replied Cook, "she's going to serve hot cocoa."

"Oh," he said, disappointed, "I don't like cocoa."

"No, I know you don't," she said gently, "but after you have served your pumpkin-face cakes, I'll give you a big bowl of rich cream if you'll come back to the kitchen."

He purred his thanks and then called out, "Old Witch, I have my cakes all ready to serve. You'd better hurry and fill up that magic cup of yours."

"It's all filled," she cackled gleefully, "so come on, let's get to work."

"Wait a minute," commanded Cook. Then she carefully straightened the big orange bow that Catawampus wore at his throat, shoved the old witch's tall hat down snugly on her head and pushed a soda straw right down through the center of it into the magic cup.

"There!" she said standing off and looking at them with admiration. "You both look splendid, and now you may go and serve your refreshments."

"Hop up here behind me, Catawampus," called out the old witch. And almost instantly they were sailing right over the party table in the dining room. At each place was a small Catawampus made exactly like the little black cat.

At once the little cat slid off the broom and began to walk hurriedly around the table in order to fill each little Catawampus with a cake from his pocket before the guests arrived.

Meanwhile the Old Beverage Witch rode around the table on her broom, filling little Beverage Witches from her magic cup.

When all was ready, the children were called in to find their places at the table. In the center of the table sat the Old Witch and Catawampus, grinning at them.

What surprises awaited them! Such laughter! Such fun!

"What's in them?" asked the children eagerly, pointing to the little witches.

"Dip your straw in through the top of the hat," the big witch answered with a grin.

"And what are in the little black cats?"

"Pull them up by the ear and reach in," Catawampus replied. And so they did. Each time a cake was drawn out, the children shrieked with laughter, for no two of the cakes had faces that were alike.

At last when all the cakes had been eaten and the contents of the witch cups had been drained to the last drop, the children cried,

"Thank you, Catawampus! Thank you, Old Witch! The refreshments were delicious!"

And as Catawampus and the Old Beverage Witch were bowing and grinning in delight, suddenly Mary Lou began to giggle.

"What's the matter?" cried the children.

"What's the matter?" snapped the Old Witch.

"What are you laughing about?" asked the little cat anxiously.

"Why, why," giggled Mary Lou, "the refreshments came to the party in masquerade costumes, didn't they?"

But no one answered, for just then a clock somewhere began to chime, and the children hastily arose from the table.

"Good-by, Catawampus! Good-by, Old Witch! We've had a wonderful time!" they cried as they hurried away.

How to Make Catawampus and the Old Beverage Witch

THE OLD BEVERAGE WITCH is a heavy white paper cup—the kind that has a flat, tight-fitting lid. Her face is made of black paper cutouts. Her hair is black crêpe paper fringe, fastened to the rim of the cup.

A straight piece of black crêpe paper, gathered and pasted to the bottom of the cup, forms her skirt.

Arms are made either of soda straws or of pipe cleaners. Hands of black construction paper, pasted to the straws or pipe cleaners, are enclosed in orange crêpe paper sleeves and are pasted to the sides of the cup.

Straws or pipe cleaners, wrapped in orange paper, are pasted to the bottom of the cup beneath the skirt, and shoes of black are pasted on these legs.

Her broom is a tiny roll of orange crêpe paper and has a straw or pipe cleaner wrapped with paper of the same color for its handle. The broom is pasted to the bottom of the cup so that the Old Witch appears to be riding it.

The brim of her hat is a circle of black paper, 5½ inches in diameter, and the pointed crown is one of orange, 7¼ inches. The circle for the crown is folded in half, rolled into a cone and pasted in place on the one of black. A hole is punched in the center of the black circle so that a soda straw may be stuck right down through the hat. When the cup has been filled with whatever beverage you wish to serve, the flat lid, which has a hole punched through the center of it, is then pushed down on the cup, and the straw with its attached hat is inserted. The hat fits down on the lid snugly.

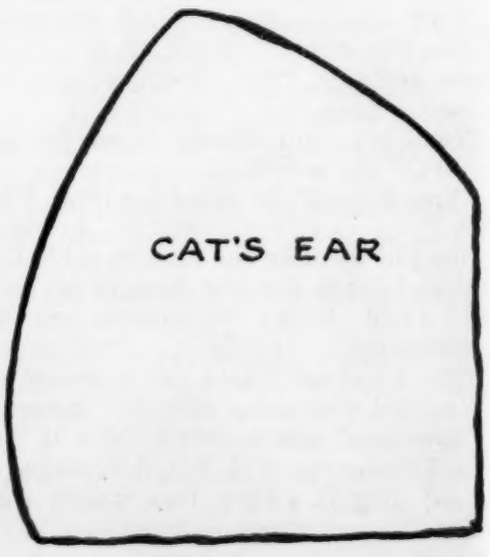
Catawampus is made of two 5 inch paper pie plates each of which has a border of black crêpe paper 1 inch wide pulled tight around its rim and pasted in place. One plate is turned bottom side up, and a cat's face, made from black and orange paper cut-outs, is arranged and pasted in place on it. Ears of black crêpe paper are then pasted to the inside rim of this plate.

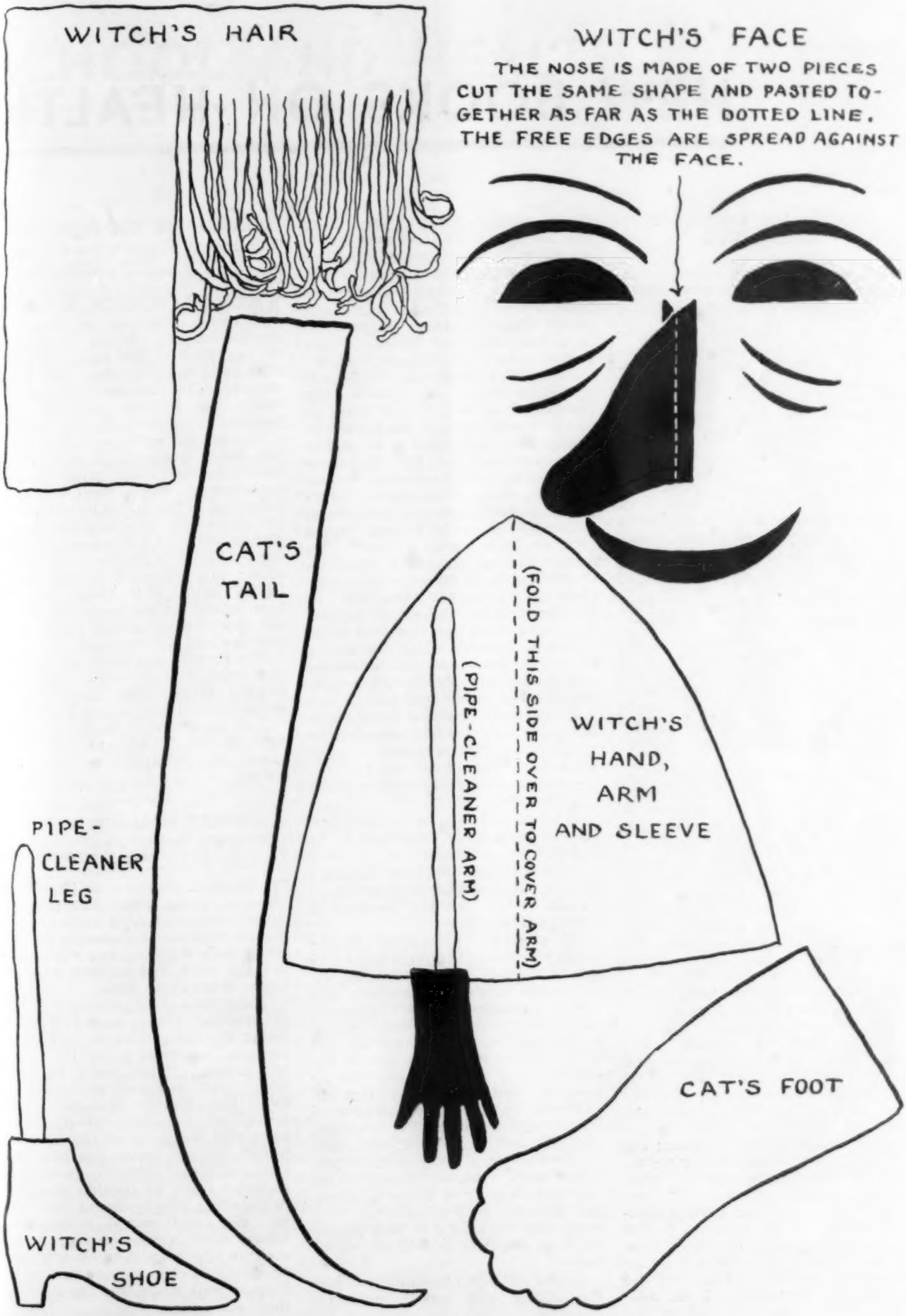
When each plate has been lined with a circle of white paper, the one with the cat's face on it is turned right over the other plain one, and they are tied together with a piece of string.

This string is run through holes in the edges of the plates, thus forming the cat's neck and making a box, as it were, with a hinged lid; the lower plate then forms the tray, and the upper one with a face on it, the lid.

A huge bow of orange crêpe paper is pasted just beneath the cat's chin on the top plate and covers up the string which ties the two together.

Legs of black paper are pasted to the under side of the orange bow, and a black tail, fastened to the bottom of the lower plate, completes Catawampus.




WITCH'S HAIR
WITCH'S FACE
THE NOSE IS MADE OF TWO PIECES CUT THE SAME SHAPE AND PASTED TOGETHER AS FAR AS THE DOTTED LINE. THE FREE EDGES ARE SPREAD AGAINST THE FACE.
CAT'S TAIL
(FOLD THIS SIDE OVER TO COVER ARM)
(PIPE-CLEANER ARM)
WITCH'S HAND, ARM AND SLEEVE
PIPE-CLEANER LEG
CAT'S FOOT
WITCH'S SHOE

NEW BOOKS ON HEALTH

NOTES ON VITAMINS AND DIETS

By Daniel Thomas Quigley, M.D., F.A.C.S. Price, $1. Pp. 128. Chicago: Consolidated Book Publishers, Inc., 1933.

ACCORDING to the author, this book is intended to make accessible to the layman in comprehensible terms a working knowledge of the vitamins. The material that would have been helpful and instructive has been vitiated by being intermingled with considerable misinformation.

An opening chart, claimed to represent conclusions from the study of the diets of more than 5,000 persons, arbitrarily attributes chronic disorders of throat, stomach, lungs, colon, heart and kidneys of many persons to vitamin and mineral deficiencies of the diet and correlates such diseases as high blood pressure, heart diseases, cancer, colds and rheumatism, with diets low in vitamin foods. It is stated, "If white flour products are a part of the diet, some poisoning may result from the bleaching ingredients"; there is little if any evidence to support such a contention.

The ills of civilized peoples are attributed to manufactured and refined foods. On this basis, it is claimed, mankind is rapidly degenerating, and ultimate disaster is prophesied. The health of native peoples of the past who lived on natural foods is frequently mentioned to illustrate by comparison the sad plight of modern generations. The imagination plays too great a part in such comparisons to make them cogent. Time and myth undoubtedly have contributed greatly to the alleged strength and health of ancient peoples. The efficient retention of natural nutritional values in present-day canned fruits and vegetables; the great nutritional improvements in the diet of vast numbers of peoples, resulting directly from the rapidly expanding science of nutrition; the constantly spreading popular knowledge of food values, and the intellectual control of the diet are largely ignored. True, certain common foods can be misused to the detriment of health, but at no time in history has there been a better choice of essential foods and the opportunity to construct an adequate diet. The indications for health through foods in the future are brighter than they ever were. By research future generations can assure scientifically adequate diets.

The author's discussion of white flour and its bleaching is that of the whole wheat faddist. White flour is condemned and charged with almost every nutritional misdemeanor. The nutritional limitations of white flour are known and recognized as well as are those of many foods. Flour bleaching is charged by the author with adding poisons to food, and bleached flour is stated to be at least mildly toxic. Actually, flour bleaching as practiced is harmless; not even academically does bleaching injure flour or its value as a food. The author appears innocently unaware of the nature of flour bleaches, the chemical processes involved in bleaching flour, the small quantities used and the chemical end-products formed. The discussion of white flour and its bleaching exemplifies the unscientific character of the entire volume.

There are many and varied evidences of an uncritical, unscientific approach to the subjects treated throughout the book. A few exasperating unscientific affirmations may be cited:

"Flu . . . is due to a deficiency of the protective vitamins A, B, and C."

"Putting our evidence together we may assume that 90% of tuberculosis . . . is the result of a vitamin D starvation."

"If a proper percentage of the foods containing vitamins known to be protective against respiratory infections (lettuce, tomatoes, and other vegetables, oranges, bananas, and other fruits, whole wheat bread, milk, eggs, cod liver oil, and fresh meat) were included in the diet during the fall and winter months, and if, in addition to exposure to a sufficient amount of sunshine, either natural or artificial, refined sugar, white flour, macaroni, white rice, and other non-vitamin foods were avoided, it is possible that the number of cases of colds, flu, grippe, etc., would be very materially reduced and in a period of years might be practically eliminated."

Books of this character confuse the public and serve no useful purpose.

RAYMOND HERTWIG, B.S.

PRINCIPLES OF GENETICS

By Edmund W. Sinnott and L. C. Dunn. Second edition. Price, $3.50. Pp. 441. New York and London: McGraw-Hill Book Company, 1932.

MEDICAL SCIENCE has made rapid progress in the last several decades. At the same time, during the past few years, genetics also made rapid strides. The busy physician, too, has but little opportunity for keeping up with the advancements made in this field.

The second edition of this book has been prepared in order that recent investigations might be incorporated. Such topics as the induction of mutations by radiation, the discovery of segmental interchange between chromosomes, and the extension of the balance theory of sex are discussed in this book. In addition, new chapters have been added on the contributions of genetics to evolutionary theory and genetics and development.

The facts of this book are clearly presented in an easily comprehended style, with many highly illustrative diagrams and charts.

This book should be found quite valuable for the student and interesting and profitable for the physician.

WILLIAM I. FISHBEIN, M.D.

WHAT SHALL I EAT?

By Edith M. Barber. Cloth. Price, $1.75. Pp. 107. Illustrated. New York: The Macmillan Company, 1933.

THIS book contains good common sense about diet. The thirteen short chapters, which include condensed charts and workable menus, set forth in a simple, practical manner the facts that laymen need to know about their diet.

The author slyly pokes fun at the diet faddists by discussing vitamins under the title "That Grand Complexion," minerals under the chapter heading "That Good Disposition," and proteins under "That Beat the World Feeling." She makes it definitely clear, however, that she does not fall into the pitfalls which have engulfed the faddists who attribute particular personal traits to specific elements in the diet. The reader of this book can get much sound information mixed with a few chuckles; and then he can go and enjoy a square meal with a clear conscience. The book is well made, and the illustrations are amusing.

W. W. BAUER, M.D.

SCHOOL AND HEALTH

A Department Conducted by J. MACE ANDRESS, Ph.D.

67 Clyde Street, Newtonville, Mass.

The Passing of Half Truths in Health Education

RECENTLY at a meeting of health educators a man of considerable standing in the field of elementary education told his auditors that they had become "pretty gullible" in their acceptance of fads and half truths and that they had lost the respect of the general educator. Viewing the problem of health education historically, he stated that teachers in this field had mounted and ridden every health fad.

Undoubtedly this critic was partly in the right. There is need of being more certain of scientific generalizations before attempting to train a whole generation of children in definite ways. However, this criticism of educational procedure should not be confined to health education alone. Rapid change has taken place throughout the nation's entire educational system. It has affected the teaching of even the three "R's," reading, writing and arithmetic. It is an easy matter today to find adults who cannot write well because through a period of a few years they were shifted from one system of penmanship to another until finally they were left without any control of a system of writing. There have been revolutionary changes in higher education. A short time ago in a commencement address the president of an eastern college told the members of the graduating class that nearly everything he had learned in college had to be revised in the light of modern scientific investigation. Today some of our higher educational institutions, such as the University of Chicago, Rawlins College and Antioch College, are challenging the type of instruction that has lasted through the ages. Even the business man who is so free in his criticism of the schools because of their acceptance of so-called fads has prided himself on making rapid changes. Yet the business world has made monumental mistakes, and today the world is suffering from a lack of confidence in business men and their methods.

The truth of the matter is that mankind is living in a rapidly changing world. Everything was so static centuries ago that people did not expect change. In medicine the writings of Galen were accepted as authoritative for about a thousand years. Today, textbooks in many fields are obsolete almost as soon as they drop from the press. Within twenty-four hours some new discovery may revolutionize a theory that has been acceptable for a generation. Science is on the march. Each step forward involves truth and some error. Ultimate truth is never reached; but as science presses onward, half truths give way to information and theories that are more reliable. This has always been true in the history of science and without doubt always will be true. But as the half truths go, the gods appear. Nearly every generalization that is made contains some truth. Man presses on steadily toward a firmer foundation.

One of the most serious problems today in applied science is to keep pace with scientific investigation. So much scientific work is being carried on throughout the world that no sooner does one adjust oneself to the solution of some practical problem in the light of investigation than one must abandon one station and go on to another. The necessity for such frequent action often makes the educational hygienist appear vacillating.

Witness, for example, the movement of weighing and measuring children in the public schools. On the basis of height and weight tables prepared by experts it was thought that a child who was not within certain limits as to height and weight in relation to age was malnourished. It is now recommended that the height-weight tables should be discarded except as they are useful to physicians in addition to other data procured by physical examination. Gain in weight is regarded as a better index than comparison of a given child's weight with group standards, which are merely averages, from which deviation may occur within rather wide limits without necessarily indicating malnutrition or overweight.

It was not long ago that practically everybody believed that "a clean tooth never decays." Schools, hospitals, boards of health and dental societies took an active part in the propaganda of cleaning the teeth. It was implied that cleaning the teeth would prevent decay. Today it is known that cleaning the teeth is still desirable for esthetic reasons if for no others but that there are many peoples who have never used or even seen a toothbrush who are comparatively free from dental caries. This is usually explained as due to a difference in diet. Eskimos usually have excellent teeth until they come in contact with civilization. Then their teeth begin to decay like those of the white man. Everybody who has made a serious study of dental caries now believes that a balanced diet would do much to prevent tooth decay, but even nutritionists disagree about the kind of diet necessary to prevent dental decay. No simple formula can be written. The fact is that the cause of dental caries is still unknown. Much research is needed before a genuine scientific program of dental prevention will be possible.

Emphasis on the value of fresh air is now known to be a half truth for it is not so much the freshness of the air but its degree of moisture and movement that counts. Formal breathing exercises which were expected to prevent disease and build up physical vigor are now disappearing from our school curriculums. It would be possible to tabulate other half truths which are fast disappearing.

Probably the educational hygienist should be a little more conservative about accepting theories. Every principle should be carefully supported by facts before there is a change in practice. But the rapid change in points of view in hygi-

ene suggests that it is a live subject. In keeping with other applied sciences it has much to achieve. He who would help to guide the world to good health must be in a watch-tower to get a vision of new scientific achievement. It is easy for the teacher of hygiene to become a "back number." For that reason a publication like HYGEIA which appears monthly should be especially valuable.

TEACHING HEALTH

(In this column will be published each month concrete examples of good health teaching. Teachers are invited to send in contributions not exceeding 600 words and preferably less to the editor of this department. Illustrations of the actual work of children will be welcomed. Contributions accepted will be paid for but no manuscripts will be returned.)

HELPING BOYS AND GIRLS TO DEVELOP WHOLESOME PERSONALITIES

ONE often hears the expression, "He gets there because of his personality." But do not be so sure that this same somebody did not have to do a lot of "fixing" to acquire that personality.

Whatever this elusive something is that is called personality, every one knows it is desirable. Our superintendent once told us that "personality is the way we affect other people."

So if we as teachers can in any measure help girls and boys in their preparation for life to develop more pleasing personalities so that their effect on others is favorable, we will have widened our own sphere of usefulness as well as theirs.

This phase of health instruction, which is known as mental health, can be correlated with literature. Quotations from authors may be assigned as subjects for two-minute talks. A competitive spirit was aroused in pupils by assigning the same subject to two persons. These talks make good material for opening exercises and assembly programs as well as for classroom discussions.

There is an almost unlimited supply of this material in the field of literature. Pupils like to be appointed as a committee to do research work for suitable quotations. A few quotations that have been found suitable are:

Do unto others as though you were the others.—*Elbert Hubbard.*

We have committed the Golden Rule to memory; let us now commit it to life.—*Edwin Markham.*

A good name is rather to be chosen than great riches, and loving favor rather than silver or gold.—*Proverbs.*

It is much easier to be critical than to be correct.—*Disraeli.*

Better keep yourself clean and bright; you are the window through which you must see the world.—*George Bernard Shaw.*

Quiet minds cannot be perplexed or frightened, but go on in fortune or misfortune at their own private pace, like a clock during a thunderstorm.

—*Robert Louis Stevenson.*

Along with discussing the character trait which the author has mentioned, the more aspiring pupils tell something of the author and his works.

Biography is a study of personality; many persons consider it the most interesting form of reading. Here again is correlation.

Type studies never fail to interest. At first a few of these are written up by the teacher and mimeographed. Student types may be used by disguising facts and using a fictitious name so that classmates cannot definitely recognize a case. Here is an example:

Leroy: Of large self importance. Knows how everything ought to be done. Talks of how they did it in the school he attended before he came here; yet he has real ability. How can this boy be made indirectly to see that because of his tactless know-it-all attitude he is not making a favorable impression on others?

Sometimes a pupil will spontaneously exclaim, "Why that fits me!" Others seemingly remain oblivious to their shortcomings; yet as time goes on, because of these personality studies, individuals who were too individual become better all around types. After becoming familiar with this work, pupils like to write themselves up "as others see them."

Even though the intangible results of teaching, such as the development of character and personality traits, cannot be accurately measured, they are of incalculable value. The pupil's chance for a well balanced development and greater happiness during years to come is greatly enhanced.

Of course, books are being published on this subject. But in this day of depression and budget cutting it behooves one to find some practical, workable plan that does not incur expenditures for material.

The following test was mimeographed and used for individual scoring and classroom discussion. It also served as an avenue of approach for conference work with problem children. The statements are positive rather than negative, thereby suggesting the desirable to the young mind. They can be changed to question form and used as a "yes and no" test.

Score 5 for each one you can answer favorably:

—— 1. My schoolmates like me.
—— 2. The neighbors think of me kindly.
—— 3. I have the good will of my teachers.
—— 4. I am careful about my appearance.
—— 5. I have never hurt any one's feelings intentionally.
—— 6. I can control my temper.
—— 7. I guard my speech carefully.
—— 8. I am never guilty of shifting blame.
—— 9. I try to appreciate the other fellow's point of view.
——10. I Do not inquire into the personal affairs of others.
——11. I am courteous at all times.
——12. I show interest in the remarks and opinions of others.
——13. I do not boast about my good grades before less fortunate pupils.
——14. I dislike gossip and try to forestall the criticism of others.
——15. I respect the rights and opinions of others.
——16. I try to be firm but not too positive in manner.
——17. I do not take advantage of good-natured associates.
——18. I try to live up to my sense of fair play.
——19. I like to work things out without asking for help.
——20. I want to be known as reliable.

Character study is one of the most fascinating studies in the world. It is just as reasonable to make a try at analyzing personality and solving problems that confront

one as it is to analyze paragraphs in English composition or to solve intricate problems in mathematics. It seems especially desirable during seventh, eighth and ninth year school work. These pupils are at the impressionable age that bridges childhood and the "teens." And if the school course can help to make the boy or girl more interesting, more lovable, more resourceful, it is a commendable education.

EDNA F. ROBINSON,
Milton, Penn.

HEALTH TEACHING IN A SECONDARY SCHOOL IN BOMBAY

PERHAPS your readers would like to know what is being done to promote health teaching in far-off India. A short account of some features of the health activities in the fourth grade of Sir Elly Kadoorie School, Bombay, may be of interest to them.

The average age of the children is 14 years. They belong to the Bene-Israel Community, which lives in a thickly populated part of Bombay. They are mostly the children of mill and factory employees. They inherit their love of good health from their forefathers who lived in the open countryside when they first landed in India.

HYGEIA was of immense use to me in directing their health activities successfully. The children selected the following health rules for daily observance:

1. I shall brush my teeth every morning and every night before I go to bed.
2. I shall spend half an hour in the open air.
3. I shall spend half an hour in the morning and evening sunlight.
4. I shall take exercise for half an hour.
5. I shall take a bath every day.
6. I shall put on clean clothes.

A lesson on health rules based on the "Ditties for December Days" in the December issue of HYGEIA was taken to demonstrate the importance of these six rules.

The children are weighed every month. In the case of a majority of them, there is an increase of weight. Those whose weight has decreased are advised to be more regular in the observance of the rules. The children have undertaken to further a bit of health propaganda. An idea of issuing a fortnightly leaflet in the vernacular on health was suggested to them. The leaflet was named "Arogya," meaning health. Each one took a turn at editing it. Books on health were supplied to them, and the children collected information on such elementary health topics as air, sunlight, water, exercise, food, clothes and cleanliness. In each issue, one complete aspect of one of the topics is discussed.

A demonstration lesson based on the one described in "Sugar Candy and the School," which appeared in the section on Teaching Health in the December issue of HYGEIA is being planned for the immediate future.

K. P. TASKAR,
Bombay, India.

FIFTH GRADERS SPONSOR A VEGETABLE RACE

IT SEEMS hardly believable that children rushed home eagerly to eat their spinach, carrots and beets without the usual coaxing, nagging, bribing and threatening; yet, this is what happened when the fifth graders started the vegetable race.

It was spring when this group of fifth graders launched this unusual athletic event. With spring came gardening and renewed interest in track activities. In the class discussion of gardens various vegetables which promoted health were listed. The new aim or challenge was to eat more of the vegetables that one liked and to learn to eat a few additional ones. The children thought it would be fun to have a vegetable race.

All the common and moderately priced vegetables were eligible for entry. Small pictures of them were found in magazines, in seed catalogs and on packages of seeds. The children pasted the pictures on oak tag, but any thin cardboard would do. Next they drew legs on oak tag and joined them to the pictures of vegetables. Incidentally this offered excellent practice in the drawing of action figures. A color was chosen to match each vegetable. Faces also were drawn. Then each complete figure was cut out. The end of a narrow strip of oak tag was pasted on the back of each vegetable. This was to be used as a standard. Large sheets of green drawing paper were then marked off at even intervals with white crayon to form squares. This gave each runner his own path. Under the paper was placed heavy cardboard. A thumb tack through the lower end of the standard and cardboard held the runner in a fine running position.

All runners started at their own end square at the end of the field. Each morning the name of each runner was called, and those who had eaten that vegetable on the previous day raised their hands. The three vegetables receiving the greatest number of votes would be advanced one square. When the "slow runners" were discovered, the children decided on days in the near future when they would ask to have these vegetables served at home.

To add a bit of color and activity to the scene, policemen, radio announcers, cheer leaders and children were allowed on the track. Small pictures of these were found in magazines. The grandstand was filled with vegetable folk and boys and girls.

The teacher believes that this project was a success, for enthusiastic remarks and reports on the part of parents convinced her; but the fact that the children's interest never waned in the vegetable race was the greatest proof.

MARGARET KALLFELZ,
Syracuse, N. Y.

VEGETABLE DOLLS STIMULATE INTEREST IN FOODS

SEVERAL of the teachers in the primary grades came to me with the tale that the children in their rooms simply would not eat vegetables.

A few days later I made a visit to each of the primary grades. I carried four large shoe boxes tucked under my arms.

Of course the children were wondering what I had in the boxes. When the first one was opened, how they laughed! It contained a big fat doll. The head was made from a shiny red apple; the body was a small head of cabbage; the legs were fashioned from carrots and the arms from crisp celery stalks. They were put together by means of skewers and pieces of wire. The eyes, nose and mouth were made with white thumb tacks. Five thumb tacks were used for the teeth.

As I held this doll up before the class, I told them a little story about a boy who could skate better than any one else, one reason was that he had been eating vegetables and fruits. I named each vegetable and fruit in the doll.

The second doll was made as follows: for the head, a small potato;

for the body, carrots with dress of spinach; for the bonnet, a cabbage leaf; and for arms and legs, sliced potatoes. Another little story was told about this doll. This was about a girl who could run faster than even the boys. She won a beautiful silver cup. One reason was that she always ate vegetables every day.

The third doll was made as follows: for the head, a beet; for the body, an orange, with a lettuce dress, and for the arms and legs, grapes. A story with this doll was about a boy who could swim better than others and who finally saved three persons from drowning. Eating vegetables and fruits helped him.

The fourth was a doll whose head was an apple, whose body was a tomato and whose arms and legs were carrots. A story was told about this doll. A little girl wanted to become beautiful so that some day she might marry a prince. She tried everything, but she was quite homely until she ate raw carrots, tomatoes and apples. She then became so beautiful that she married the prince and became a princess.

About two weeks later I met several of the mothers of these children, and they told me that their children were eating vegetables and not only eating them but asking for them every day. One mother said that her children would never before eat carrots but that now they were eating them every day and that they actually liked them. The mothers said the dolls and their stories had made a great impression on the children.

Helen C. Large,
Bristol, Conn.

TEACHING CLEANLINESS UNDER DIFFICULTIES

LAST spring the Children's Fund of Michigan started a health contest in the district it serves to determine to which schools should go portions of the $1,000 appropriated for much needed playground equipment. Among the winners in the contest was a school which made a great advance in cleanliness under most difficult conditions.

Many of the families represented in this school are large, and their homes are so small as to make privacy impossible. There is no running water and there are no bathtubs. Wash-tubs must be used, and every drop of water is carried into the house and out again. It was found that 5 per cent of the children had a bath once a week, 45 per cent "occasionally," and 50 per cent hardly knew what a tub bath meant. So it often happened that parents did not agree with the children when they came home and "tried to dictate to them" because the teachers had urged a bath once a week. Even at the school it was so difficult to get enough water for 310 children that washing the hands before eating lunch had never been encouraged.

The wearing of nightgowns was quite unusual for some of the children; 60 per cent of them did not use night garments. They slept in their underwear. All were told of the need of airing the clothing and were urged to ask their mothers to provide nightgowns or pajamas for them. At this some of the older boys openly sneered. A mother later said she did not believe in boys wearing pajamas; she "didn't see any sense in boys wearing night garments at all." From the beginning some parents gave little cooperation; but some mothers took pride in making pajamas for their children—attractive little garments trimmed with bright colors. These made other children want similar garments to such an extent that they repeatedly mentioned their desire at home.

This school entered the contest in the middle of December, and four months later the teachers felt that a great deal had been accomplished. On Monday mornings it was most encouraging to see the bright, shining faces of the children and get the sweet fragrance of soap instead of the offensive odors which formerly were the rule. The weekly bath habit had been established; neatness and cleanliness were being striven for constantly, and the children were washing their hands before meals both at home and at school.

For some of the classrooms they had secured two pails, a dipper and a wash-basin. One pail is filled with water; the other is left empty. The pupils bring their own soap and towel. Each child pours water into the basin, washes his hands and turns the waste water into the empty pail, leaving a clean basin for the next child. In other classrooms the children go to the basement where there is a faucet and running water.

How did they get such results in so short a time?

Of course, when the health contest was announced the children wanted to enter because they had not so much as a ball and bat for their playground equipment. They decided that one of the first requisites of health is cleanliness and that the school might improve in that respect. Another decision they reached was that all should take a bath once a week and report each Monday whether or not this had been done. The need of night clothing was also emphasized.

The following Monday their appearance proved that all had bathed, but morning inspection showed carelessness about other matters of cleanliness. Little inspectors were therefore chosen to inspect each row and to report untidy children; the row having a record of 100 per cent was to be given some special recognition. All the children placed their clean handkerchiefs on the desk and showed hands, wrists and finger nails so that a check might be made. Combed hair and personal appearance were also taken into consideration.

Friday was made a day of general reminders: "Be sure to take a bath tomorrow!" "Don't forget to remind mother about those pajamas!" "Get your hair cut if you need it!"

The second week the number of baths taken was unsatisfactory; in one classroom twenty-six out of twenty-nine pupils had not bathed; in another, thirty-two out of thirty-nine. In the lower grades, results were better: there were only ten out of forty-two who had not bathed. Questions about pajamas revealed so much opposition that the teachers had to think up another scheme. So they told the children that on the following Monday all should bring their night garments to school and they would have a pajama parade. The children were delighted.

On the day of the parade more children reported having had a bath than ever before; one classroom had 100 per cent, and the other rooms did not have more than seven pupils who had not had their Saturday baths. Children who had never had a night garment brought new ones to school and wore them for the first time in the parade. Then the school was told that when all the children had them, they would have another parade, and a picture would be taken of them in their pajamas. This was a great incentive as some of these children had never had their pictures taken.

Within a month all were so imbued with the contest idea that the continuous urging of health rules was no longer necessary. In a few weeks more, daily morning inspections showed that all the pupils were cleaner in every respect. Weekly baths were fast approaching 100 per cent. From the first, the bathers were praised and encouraged to persevere in their efforts. Those who had not acquired the habit were encouraged, and they so yearned for the praise given the bathers that they persisted in their efforts at home. Nonbathers were asked each Monday why they had not had a bath; some said they were busy all day Saturday in the woods or helping their mothers. To such it was explained how restful a bath is, how much more in need of a bath they

were because of their labors, and how short a time it takes to get one. Many children would have given up coaxing their parents to make a bath possible for them had it not been that they saw the number of bathers increasing each week and heard the praise and encouragement given them by their respective teachers. Some parents say that the children kept coaxing until they felt that they had to make the child's bath possible. The teachers realize the inconvenience to which both children and parents are put, and though they sympathize with them, they still encourage weekly bathing by constantly drawing attention to the physical comforts it assures.

Pajamas were emphasized especially before Christmas, Easter and birthdays as good gifts. Pending the second pajama parade, pupils were encouraged to bring new night garments to school as they were acquired and display them before the class. Although the school did not succeed as well with pajamas in that short time as they did with the baths, the teachers felt that a great deal had been done. For instead of about 60 per cent of the children going to bed in their underclothing, about 80 per cent were wearing night garments at the end of the contest.

On April 8, a teacher wrote in her record: "In the higher rooms, all without exception reported a bath; in lower rooms, a few exceptions. But we do not intend to cease our efforts with the conclusion of the contest. We will continue working, especially as we have obtained such wonderful results. Parents have even been won to cooperating with us. This in itself is surprising, for they have not received the same education themselves. But they seem to have implicit faith in the teachers of their children, and to realize that we are working for the good of all."

BERTHA STREETER,
Detroit.

NEW HEALTH BOOKS AND TEACHERS' MATERIALS

MRS. KATHLEEN WOOTEN in her new book, "Health Education Activities,"[1] suggests in the preface certain steps which the teacher of every grade should take in the development of a successful program. They are as follows:

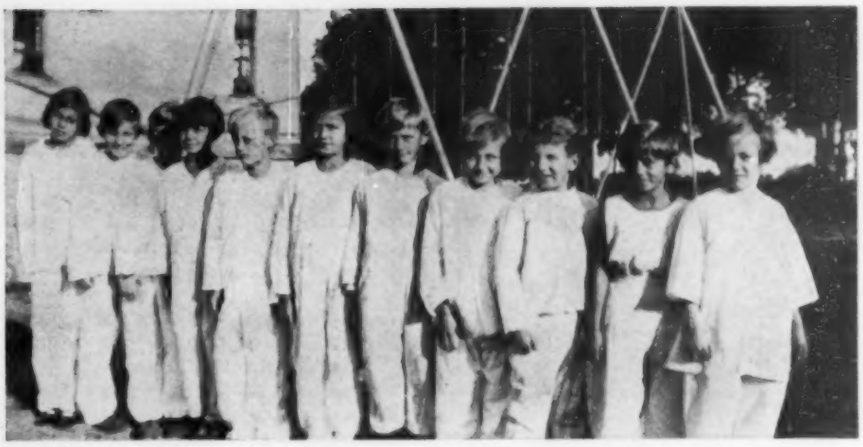
1. Make an analysis of the health assets and determine the needs of the pupils at the beginning of the term or year.

2. Make a careful study of the course of study, outlines or textbooks adopted, in order to discover what opportunities are available and what means can be provided for practical application of health lessons needed by the teacher's own pupils.

3. Guide children's activities during the school term so that their health needs are met as fully as possible.

4. Make a survey at the end of the term to discover what improvements have been made in the children's health habits, health knowledge and health conditions.

The material in the books has been organized around some major interest for each grade. The plan of the book is admirable, and teachers will find much valuable material in its pages. The bibliography is especially good.



"PREVENTION of Communicable Disease, a Junior High School Unit,"[2] is one of the best pieces of educational material that has been made available for teachers in junior high schools. Within sixteen pages are presented valuable facts and the most important problems that have arisen in man's great battle against disease. The problems and exercises are carefully prepared, and definite references to school textbooks on health have been put in just where they are needed. The experiments are especially good. This book should be of value not only to high school pupils but also to pupils and teachers of the upper elementary grades.

THE CORRECTION of postural defects is of great importance in healthy living. This requires technical knowledge and skill. Dr. Phelps and Professor Kiphuth have prepared a volume dealing with diagnosis and suggestions for treatment. "The Diagnosis and Treatment of Postural Defects"[3] is intended for experts in the field of medicine and physical education and will be of little value to other teachers.

THE medical department of the New York Life Insurance Company is publishing some valuable pamphlets for adults. Such pamphlets as "Health Conservation in Middle Age," "Common Colds and Diseases of the Respiratory Tract," "Vacations and Common Sense" and "Wives and Mothers, Guardians of the Family Health"[4] will also be of service to all teachers of health who wish to get reliable information about important health problems.

PROBABLY the greatest discovery in modern education has been the educational and hygienic value of play. It has transformed our theory and practice of education. In days gone by, there was plenty of opportunity for play in the back yard. The conditions of city life have made it more and more difficult for families to play. That means that the need for family play and recreation has increased. "Family Fun"[5] helps to meet this requirement.

TEACHING boys and girls how to spend their money so as to get some real nourishment for the money expended is one of the important problems of health teaching today. In teaching about the banana as a food, instructors will find the story "Radio Bound for Banana Land"[6] interesting and practical for children in the upper grades of the elementary school. It has been worked out with actual children in the grades and contains many problems and projects which appealed to teachers and pupils.

1. By Wooten, Kathleen Wilkinson. Price, 75 cents. Pp. 278. New York: National Tuberculosis Association, 1932.

2. New York: Cleanliness Institute, 1932. [NOTE.—This material may be obtained through state tuberculosis associations.]

3. By Phelps, Winthrop Morgan, M.D., and Kiphuth, Robert J. H.. Price, $4. Pp. 180. Baltimore: Charles C. Thomas, Publishers, 1932.

4. New York: New York Life Insurance Company.

5. New York: Parents Magazine, 1931.

6. By Andress, J. Mace, and Dickson, Julia E. Pp. 44. Boston: United Fruit Company, 1932.

QUESTIONS AND ANSWERS

Stomach Ulcer

To the Editor:—Is there a treatment of stomach ulcer, the method of which is accepted by the American Medical Association? I find that the so-called Sippy diet is discountenanced by some doctors and supported by others. Where may I find authentic information on the symptoms and treatment of stomach ulcer, data from state and municipal boards of health or federal reports, and clinical biographies of persons treated with the various methods?

R. R. F., California.

Answer.—There is no treatment of stomach ulcer which is accepted by the American Medical Association in preference to any other. The American Medical Association does not accept methods of treatment as such, though it has councils which accept claims advanced for drugs, for therapeutic appliances and for foods. The treatment of a case of stomach ulcer resolves itself into the treatment of the patient, and no two patients are alike; nor is any one patient the same at all times. It is therefore apparent that there can be no standardization of treatment either for stomach ulcer or for anything else, but that treatment must be adapted to the individual needs of a given patient at a specific time.

There are a number of methods of treating stomach ulcer, and one of them is the so-called Sippy treatment. The Sippy treatment and other combinations of diet and medication are all based on the same principle, and some physicians may use one modification and some another. All of them have as their basis the reduction of excessive acidity in the stomach by the use of diet and alkali in small and frequent feedings and dosages.

Lately there has been much interesting experimental work on surgery for the relief of gastric ulcer. Certain types of operation have been used for many years, but there is now experimental and clinical evidence to show that, in certain types of patients, gastric ulcers can be benefited by surgery of the nervous system.

Information on the treatment of stomach ulcer is contained in medical literature, but literature of this kind must be read by persons who have a background against which specific discussions can be interpreted; laymen are almost certain to be misled. State and municipal boards of health and government reports would not be of any value, because, aside from mortality statistics, these groups do not concern themselves with gastric ulcers.

The inquirer is counseled against attempting an independent study of stomach ulcer. The proper thing to do is to find a physician in whom the patient has confidence and then submit to his care and let him do the studying and the worrying.

Sex Determination

To the Editor:—Please inform me about the article on sex determination which appeared in *The Parents' Magazine* for July.

W. H. S., California.

Answer.—The article in *The Parents' Magazine* for July, dealing with sex determination, appears to be well written and conservative. The author might have placed a little more emphasis on the prediction of sex by injection of the expectant mother's urine into male rats or rabbits. This appears to be more promising than any of the methods to which she gave more space. This, however, is sex prediction and not sex determination, which is quite different. The author expresses a proper skepticism regarding the Unterberger theory in which it is claimed that change of the reactions of the vagina influence the child's sex.

According to *The Journal of the American Medical Association,* the theory that the use of lactic acid as a douche prior to conception assures the birth of girl babies and bicarbonate of soda of boy babies is one that can be regarded with healthy skepticism. There are cases on record in which the consistent use of lactic acid douches was followed by the birth of a boy baby.

The Journal further points out that if it were possible to exert such a tremendous influence as the determination of sex simply by the use of either acid or alkaline douches, physicians must consider whether this means would not also produce other far-reaching and perhaps undesirable effects. At present there is no way in which the sex of babies can be influenced.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

Protection Against Pneumonia

To the Editor:—A patient, aged 25, has had pneumonia three times. What can be done to prevent or at least make less dangerous future attacks? Is it possible to build up a resistance to pneumonia by proper diet? Would sleeping outdoors during spring, summer and autumn have any advantageous effects?

N. R., Illinois.

Answer.—Whether it is possible to build up a resistance to pneumonia by proper diet cannot be answered definitely, for there is evidence on both sides of the question. It is wise, however, to observe a correct diet, because of its value to the general health, even if it does not specifically protect against pneumonia. Sleeping outdoors during spring, summer and autumn is desirable, but it will not necessarily build up resistance against pneumonia. Pneumonia is one of the diseases to which patients do not readily develop immunity; in some instances patients appear to grow increasingly susceptible.

Cod Liver Oil

To the Editor:—Does cod liver oil tend to prevent colds and sinus infections?

B. P. R., Pennsylvania.

Answer.—The present status of knowledge about cod liver oil and its relationship to the prevention of colds and sinus infections is somewhat contradictory. Many physicians are convinced from clinical experience, and many patients from their own experience, that cod liver oil, possibly by virtue of its vitamin A content, helps materially in the prevention of colds and sinus infections. Experimental evidence, on the other hand, indicates that vitamin A in excess quantities over the ordinary diet does not have any particular influence in preventing colds and sinus infections. Since this is the case and since the taking of cod liver oil is a harmless procedure, it is probably advisable to take it, especially if a trial seems to indicate that the desired results are being obtained.

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Use in nose or throat after exposure or when there is irritation.
MOUTH WASH, GARGLE OR THROAT SPRAY: Use full strength or dilute with one to three parts of warm water. Odorless, pleasant to taste. Use twice daily.
NASAL SPRAY: Dilute with three parts of warm water.
CUTS, BURNS, SCALDS, ALL RAW SURFACES: Apply undiluted. If injury is painful, bandage lightly, keeping bandage wet with solution.
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Use it freely and teach your children to use it. Pour it at once into cuts, scratches, open wounds. In case of serious injury, consult your doctor.

The Seal of the Council of Pharmacy and Chemistry of the American Medical Association should serve as an indication of its trustworthiness.

Hexylresorcinol Solution S. T. 37 is very economical at the new price reductions. The 50¢ bottle is now a whole ⅗ bigger than before and the large size is now only $1.00 instead of $1.25. Prices now the same in both the United States and Canada. Buy a bottle today!

Among the prominent hospitals using Hexylresorcinol Solution S. T. 37 are:

The Woman's Hospital of Baltimore
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Episcopal Eye, Ear and Throat Hospital, Washington, D. C.
The Pittsburgh Hospital, Pittsburgh, Pa.
Grace Hospital, Detroit
Grace Hospital, New Haven, Conn.

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Prevent diphtheria from invading your home

No More Diphtheria

NOT so many years ago Diphtheria was the black enemy of childhood. All over the world it claimed a frightful toll. And the tragedy was that three-quarters of its victims were little tots under six—hardly more than babies. Swiftly it struck with deadly result without warning—and there was no sure way to combat it.

Then came Anitoxin. Children who received this treatment at once enjoyed a better chance in their struggle for life. And the Diphtheria death rate was lowered. But Antitoxin is effective only after Diphtheria develops. It checks the progress of the disease—but it does not give lasting protection. Now comes a great triumph of medical science—the Prevention of Diphtheria!

Today, eminent specialists state positively and definitely that through modern preventive treatment—

Diphtheria can be Stamped Out!

Some children are able to resist the germs of Diphtheria. Others are not. The wonderful discovery of Dr. Schick of Vienna, is now being used to show which children need protection—which are susceptible and which are not. The Schick Test consists in giving the child a tiny injection in the skin of the arm. If, after a few days, a red spot appears where the injection was made, the child is susceptible. If no spot appears, the child is immune.

November is Danger-Time

Diphtheria is especially prevalent in the fall. The disease is caused by a germ that lodges in the throat and later forms a membrane. Death is frequently caused by strangulation and the agony of the struggling child beggars description. And if the child recovers, the disease leaves the heart and kidneys weakened.

Diphtheria is extremely contagious. Have your children thrown examined at the first suggestion of a cold or a fever. Seek medical advice on having your children Schick Tested and made immune by the Toxin-Antitoxin Treatment to the attack of Diphtheria.

Children who show by the Schick Test that they are liable to Diphtheria can be given at once the Toxin-Antitoxin Preventive Treatment. This treatment consists of three injections of Toxin-Antitoxin, one each week for three weeks.

The Schick Test does not make the child immune—but scientists agree that the Toxin-Antitoxin Treatment does. Experience shows that both test and treatment are painless and harmless.

The Schick Message is this: if mothers and fathers and all others who love children will help, this dread disease that has blotted out thousands and thousands of lives can be wiped out. Children need not have Diphtheria. It can be prevented.

If you love them— Make them safe

Experienced Health Boards urge that you take your children at once to a physician and have them protected from this deadly scourge by means of the Toxin-Antitoxin Treatment. The people who are introducing the Schick Test into the public schools need your heartiest co-operation. If your child brings home a request for your approval for the Test or the Toxin-Antitoxin treatment, do not hesitate to give permission.

Would you willingly permit a man to drive an automobile into a crowd of little children? Why then permit Diphtheria—unchecked—to mow them down!

Published by

METROPOLITAN LIFE INSURANCE COMPANY—NEW YORK

Biggest in the World, More Assets, More Policyholders, More Insurance in force, More new Insurance each year

THE message reproduced here, "No More Diphtheria," published in November 1923, contained facts unknown to a large majority of the people.

Many newspapers verified the statements and then, in the interest of local public welfare, reprinted the article in full in their news or editorial columns, or both. At the same time they urged local Boards of Health to see that every school child was protected from diphtheria. In 1923, the diphtheria death toll was about 13,500 in this country.

The facts about prevention of diphtheria were retold in 1926 when the death list was about 8,750; again in 1929 when it had dropped to about 8,000; and still again in 1931 when the mortality was about 6,000.

It is encouraging to report that last year about 8,000 fewer children died of the disease than in 1923. But the sad fact remains that in 1932, according to estimates, more than 5,000 children, most of them under five years of age, died from the disease.

Your doctor will tell you that the toxoid or toxin-antitoxin inoculation against diphtheria is extremely simple and is neither painful nor dangerous. It leaves no scar and it gives sure protection from a disease against which, not many years ago, the science of medicine had found no defense.

If all the boys and girls in the country, more than six months of age, are inoculated now—and if in the future all babies are inoculated as soon as they are six months old—the death-rate from diphtheria will fall close to zero, and the promise made ten years ago "No More Diphtheria" will be fulfilled.

Metropolitan Life Insurance Company will gladly mail, free, its booklet "Diphtheria and Your Child." Address Booklet Dept. 1033-Z.

METROPOLITAN LIFE INSURANCE COMPANY

FREDERICK H. ECKER, PRESIDENT ONE MADISON AVE., NEW YORK, N.Y.

© 1933 M. L. I. CO.

Enlargement of the Liver

To the Editor:—What is the cause of enlargement of the liver? Is there a cure? H. J. W., Ohio.

Answer.—There may be a number of causes of enlargement of the liver. Among these causes is long continued use of alcohol even in moderation. Another cause is habitual overeating. Various infections may produce enlargement of the liver, especially syphilis. Disease of the circulatory system may produce temporary enlargement of the liver, which disappears if the heart recovers but becomes chronic if the diseased condition is long continued. Parasites, such as certain types of liver flukes and worms, and other infections producing abscesses in the liver may also account for its enlargement. Enlargement of the liver is one of the symptoms of abscess caused by amebic dysentery, a tropical disease. Various types of blood disease produce enlargement of the liver as well as of the spleen. Tumors, such as cancer, may also cause enlargement of the liver. In infants there are some obscure diseases not yet well understood which produce liver enlargement.

The question then cannot be answered in any simple way. To find out what may be the cause of enlargement of the liver in any given case would necessitate a thorough physical examination of the patient. Naturally, only the attending physician can do that.

Blood Count

To the Editor:—What is meant by a blood count of 10,000? What should the blood count be ordinarily? Under ordinary conditions what is the correct number of red corpuscles in the blood stream? H. K. S., Virginia.

Answer.—When a person is said to have a blood count of 10,000 there are 10,000 white blood corpuscles to a cubic millimeter of blood. The count is made in a special chamber prepared for that purpose and under a microscope. The blood is diluted to facilitate counting, and the dilution is then figured in computing the blood count. The normal count ranges from 6,000 to 8,000. Variation in numbers may mean infection, abnormal concentration of the blood or blood disease.

Human blood varies in its red cell count according to a number of factors, but a fair average is from 4,500,000 to 5 million red blood cells per cubic millimeter of blood.

Off for a Touchdown

SIGNALS! Seven - fifteen - three - eleven - hike! And he's off with the ball. Running. Straining. Tumbling. The whole of him plays the game. Heart, lungs, muscles work to win.

Every boy's body must meet many tacklers, but all are not on an opposing football team. Some are insidious. For example, there is tuberculosis—which is most often a disease of childhood and youth.

Once this tackler takes hold, it's a hard struggle to break away. But tuberculosis can be *avoided.* By having the family physician make an annual health audit, the first signs of the disease can be detected and effective measures taken to wipe it out. X-rays are the most important aid in this safeguard. For radiographs show definitely the presence of tuberculosis or assure its absence.

Health and Success

Children and grown-ups as well who attain high goals usually are the ones backed by health. Put your family in this group. Be sure they have complete health examinations every year. Also be sure that radiographs are made. They are one of the physician's most modern and conclusive aids.

HAVE AN ANNUAL HEALTH AND X-RAY EXAMINATION

• *This booklet is free. It illustrates many conditions and explains the ways x-rays are used in preserving health. Send for it today.*

EASTMAN KODAK COMPANY, *Medical Division*
361 State Street, Rochester, N. Y.

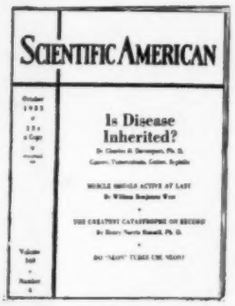
Gentlemen: Please send me a copy of your free booklet, "X-rays and Health."

Name_____

No. & St._____ City & State_____

Did you . . . . ?

INHERIT A DISEASE



CANCER, TUBERCULOSIS, GOITER, SYPHILIS—Are they inheritable? That is a question to which all of us would like to learn the answer, for many of us have in our pedigrees disease strains of which we may or may not be aware. The evidence that has been collected on this vital subject is discussed authoritatively by Charles B. Davenport, Ph.D., Director of the Department of Genetics of the Carnegie Institution of Washington, in the

OCTOBER
SCIENTIFIC AMERICAN

Other articles of a similar nature, on various phases of medical science, are scheduled for coming issues.

In each issue of SCIENTIFIC AMERICAN will also be found articles that describe and interpret for the alert layman reader the news of developments in

PURE SCIENCE	AVIATION
INDUSTRY	ARCHEOLOGY
ENGINEERING	ASTRONOMY

Scientists, manufacturers, executives, engineers, and government officials prepare its authoritative articles.

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Send us One Dollar and we will send you SCIENTIFIC AMERICAN for Four Months. You save 40 cents.

SCIENTIFIC AMERICAN PUBLISHING CO.
24 West 40th Street New York, N. Y.

Asepsis in the Home

To the Editor:—What is the best and most practical process aside from boiling for making wash-cloths, towels and clothing aseptic? K. G. T., California.

Answer.—Aside from boiling, which makes wash-cloths, towels and clothing aseptic, no aseptic process can be recommended which can be safely carried out in the home. Clothing that cannot be washed is usually rendered perfectly safe, though not aseptic, by dry cleaning; however, dry cleaning does not remove the fungus associated with ringworm, or athlete's foot. There is no reason why wash-cloths, towels and other types of clothing that will stand it should not be boiled. Colored clothes and fabrics that will not stand boiling can be rendered sufficiently clean by washing.

It is well to bear in mind that absolute asepsis in the home is not necessary. This is fortunate, because it would be impossible. It must not be forgotten that the body has natural defense forces which are capable of overcoming ordinary amounts of infection. Reasonable cleanliness, therefore, as represented in the practices of the average housekeeper may be regarded as adequate protection against most infections.

Tonics

To the Editor:—What is a good remedy or tonic for run-down vitality and pep that will not interfere with one's daily diet or act as a laxative? Are all tonics of hypophosphites good? Which one obtains the speediest and best results? A. A. R., Wisconsin.

Answer.—Some years ago the hypophosphites acquired an undeserved reputation for being tonics when, as a matter of fact, they are virtually without effect on the body.

Strictly speaking, there is no such thing as a tonic. There are some drugs which in the hands of physicians may be used as temporary stimulants under the proper circumstances, but there is nothing that fulfils the prevalent conception of a tonic; namely, a drug or preparation that will so influence the person taking it that good health and vitality will be restored.

A physician should be consulted in case of indisposition, and his advice should be followed. If one does feel well, it is a good plan to see a physician once a year for an examination.

A careless man is just an accident going somewhere to happen.

AN ANSWER TO "THE RADIO GYMNASIUM CLASS"

The following letter presents a radically different point of view on the radio gymnasium class from that of the article published in the June issue of HYGEIA:

The Editor of HYGEIA
Chicago

Dear Sir:

The June issue of HYGEIA contains an article entitled, "The Radio Gymnasium Class," that attempts a justification for this product of broadcasting. One may wonder why the apology was needed, and conjectures may vary about that, but surely the number of physical illiterates has not decreased enough to diminish the fan mail or to jeopardize this commercial venture in one of radio's greatest absurdities. The author admits early in the article that the fan mail "was sufficient to justify commercialization." Is this defense in HYGEIA prompted by the desire to keep a good thing going? To be sure, motives are not vital in the question. There are far more important considerations.

It is argued that outdoor exercise is the ideal kind but (and I quote literally from the article) "is it not better to get an indoor workout by calisthenics than never to exercise at all?" This is precisely like attempting a justification for selling a laxative and then arguing, "Is it not better to have a bowel movement than never to have one at all?" And this second example of the fallacy would have about as much contribution to a person's health as the first. The writer of the article falls into a pit that was recognized long ago. He is not hoisted by his own petard but, to change the figure, scuttled by his alternatives.

Unfortunately, not as much progress has been made in educating people in the physiology of activity as in other hygienic matters, and consequently the fallacies about exercise are stated as axioms. The public today would recognize the fallacy of the laxative and reply, "No! It is better to eat such foods and to live in such a fashion that a daily laxative is not necessary." But not only the general public is uninformed about the physiology of activity; even those who write articles for radio exercises are quite unprepared to advise a nation on such an important question.

Referring to a statement by Logan Clendening concerning the state of primitive man, the author concludes "the fact still remains that old

(Continued on page 948)

"YOU'D THINK IT WAS CHOCOLATE SODA!"
"My children never liked milk. Now I mix it with Cocomalt, and they rush for it as though it were chocolate soda!"
"ALL MY PATIENTS SAY IT'S DELICIOUS"
"I like to give my patients Cocomalt—it's such a treat! It helps convalescents get their strength back, too."
THE DENTIST PRAISED HIS TEETH
They are straight, strong teeth. He has always had Cocomalt in milk regularly to richly supply calcium and Vitamin D.
"BRIMMING OVER WITH NEW PEP AND ENERGY"
"No more four-o'clock fatigue for me! I'm feeling better than I have in years—full of vitality! I'm drinking Cocomalt."
"FOR MY BABY'S SAKE"
"Before my baby came, and all the while I was nursing him, I drank Cocomalt. For it's rich in Sunshine Vitamin D, which helps make strong bones and teeth."
A hot drink is an aid to Sound Sleep Try Hot Cocomalt
1 LB NET
Cocomalt
A DELICIOUS FOOD DRINK
CHOCOLATE FLAVOR

See how thousands gain strength—energy—vitality

on this chocolate flavor milk-drink!

HERE'S a milk-drink so *delicious*, you'll want to serve it to your special guests—so *nutritious*, you'll want to give it to your children many times a day!

Prepared according to directions, Cocomalt adds 70% more food-energy to milk. That means every glass is equal in food-energy value to almost two *glasses of milk alone.*

Cocomalt contains a rich supply of Sunshine Vitamin D (under license by Wisconsin University Alumni Research Foundation). One glass, prepared as directed, is equivalent in Vitamin D content to two-thirds of a teaspoonful of good cod-liver oil. This rich Vitamin D content aids the body more efficiently to utilize the food-calcium and food-phosphorus (richly supplied by Cocomalt and milk) in developing strong bones and teeth—particularly important for growing children.

At grocery and drug stores in ½-lb., 1-lb., and 5-lb. cans.

SPECIAL TRIAL OFFER—Mail coupon (and 10c for packing and mailing) for trial can.

R. B. Davis Co., Dept. K-10, Hoboken, N. J.

Please send me a trial-size can of Cocomalt. I enclose 10c to cover the cost of packing and mailing.

*Name*_____

*Address*_____

*City*_____ *State*_____

Cocomalt is accepted by the Committee on Foods of the American Medical Association. It is a scientific food concentrate of sucrose, skim milk, selected cocoa, barley malt extract, flavoring and added Sunshine Vitamin D.

NRA WE DO OUR PART

AN ANSWER TO "THE RADIO GYMNASIUM CLASS"

(Continued from page 947)

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Let us look at some of the mistakes in the article under discussion.

The writer of the article groups "golf, handball, tennis, horseback riding or radio exercises" in the same category, and refers to "the relaxation and exhilaration which these activities afford." The casual reader might suppose them to be as closely identified as Harvard and Yale, or ham and eggs, but in nature and effect, radio exercises are as far removed from the others in the group as lip-stick is from hemoglobin. To refer to such exercises as "the bastard child of Ling" not only libels a great name but inadvertently acknowledges the illegitimate character of the offspring. Brought up in studios in the atmosphere of "selling-something-to-the-public," it is not surprising that this deformed and illiterate child should be so ill advised.

The writer of the article under discussion says, "The most offensive feature of all, from the instructor's standpoint, is that his health instruction must sanction the com-

(Continued in column 3)

SERVE BABY

A Cereal

THAT'S PREPARED FOR HIS TUMMY . . . NOT YOURS!

Little stomachs can't handle as heavy foods as big ones can! That's why we've developed a cereal especially for baby—and better for baby. It's fine-strained and uniform—just as all Gerber's baby foods are. Here's what Gerber's Strained Cereal is made of—whole wheat, hulled oats, and extra wheat germ (for vitamin B).

Then it's long-cooked in fresh, whole milk to improve food value and flavor. In fact, many babies who turn up their tiny noses at ordinary cereals, simply let out lusty yells for more of Gerber's. It's extra-finely strained, too, through monel metal strainers five times as fine as the usual kitchen strainer. This means that all harsh bran particles are removed *after their food value has been absorbed* and that the cereal is extra-easy on baby's digestive system. Gerber's Strained Cereal is always uniform and always ready—and it's Better for Baby, too!

Of course you know about Gerber's Strained Vegetables

Doctors prescribe and recommend them, because they do give baby a better start in life. Richer in vitamins. Richer in valuable mineral salts. Superfinely strained to make them easier for baby to digest.

Strained Tomatoes . . . Green Beans . . . Beets . . . Vegetable Soup . . . Carrots . . . Prunes . . . Peas . . . Spinach . . . 4½ oz. cans. *Strained* Cereal . . . 10¼ oz. cans . . . 15c. All unseasoned so they can be seasoned for your baby's specific need—as doctor prescribes.

Ask Your Doctor!

Gerber's

9 Strained Foods for Baby

Gerber Products Company
Fremont, Mich.
(In Canada: Fine Foods of Canada, Ltd., Windsor, Ont.)

Please send me free copies of "Mealtime Psychology," by Dr. Lillian B. Storms and "Progress in Infant Feeding." (Enclose 10c if you would also like picture of the Gerber Baby by Dorothy Hope Smith, ready for framing.)

H-10
Name.....
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AN ANSWFR TO "THE RADIO GYMNASIUM CLASS"

(Continued from column 1)

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To be sure the instructor may rationalize by reminding himself of the good he is doing. He may even note as the article does that "it remained for psychologic studies to reveal the advantages of bodily development in helping the individual to fit into his surroundings." To be sure if one were to ask that the reference be documented, that would be embarrassing for there would be considerable difficulty in finding even a "bastard" relationship between radio-exercises and psychologic adjustment. The Committee on the Socially Handicapped of the White House Conference on Child Health and Protection says that a child's fundamental needs are the need for security and the need for development, but no student of delinquency would interpret development as used in this report to refer only to muscular activity. The fact of the matter is, of course, that in a soundly conceived plan of physical education, we do not exercise the muscles to strengthen them, but we engage in activities that have significant outcomes for the whole man, the pursuit of which happens to strengthen the muscles. It is this that makes gardening something more than a backache or the raising of radishes, golf something more than a reduced waist line, and hiking something more than a means of progression. Until the radio gymnasium class instructor understands that, he will continue to talk about a "work-out" and continue the superstitions related thereto. The complex relationship of activity to health is well

(Continued on page 949)

AN ANSWER TO "THE RADIO GYMNASIUM CLASS"

(Continued from page 948)

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"Second, after" considerable thought "I have concluded that the best results can be obtained" by selecting silent instructors who will be most effective when television is perfected. This is appropriate for the followers of DeLaspee, and the dumb-bell woven on the instructor's shirt will be the symbol of the trade and not a blot on the escutcheon.

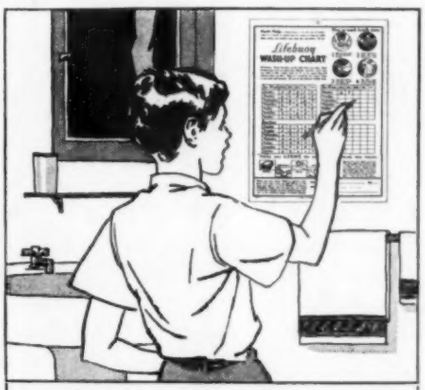
"Third, the radio gymnasium class offers" up a golden calf as a symbol of rich, red-blooded, vigorous, bullish (optimistic) health instruction. It will encourage health by "pep" talks, asking people to smile when the problem of doing the "bootstrap lifter" is serious but wholly unimportant business.

"Fourth, the sets of exercises" will be middle class. First-class exercises will be supplied to those sending name and address to station BLAH (there will be given free to those who send age and sex, a canary whistle which looks sort of like a canary but sounds like other

(Continued on page 950)

OUTDOORS JOHNNY WAS A REGULAR FELLOW. ALWAYS IN THE THICK OF THINGS . . . AND DID HIS HANDS GET DIRTY!

BUT HE HATED SOAP LIKE POISON! "FORGOT" TO WASH — AND THAT MEANT SCOLD, SCOLD, SCOLD ALL THE TIME!



THEN HIS MOTHER DISCOVERED A FASCINATING GAME THAT WON JOHNNY OVER TO WASHING HANDS OFTEN

SEE HOW *CLEAN* JOHNNY KEEPS HIS HANDS NOW. A RELIEF FOR MOTHER... REAL HEALTH PROTECTION FOR JOHNNY!

THE Lifebuoy Wash-Up Chart has helped thousands of happy mothers to solve the "clean hands" problem. It changes washing hands from a duty to a thrilling game. This way the most rebellious children become ardent soap "fans"—the clean hands habit is here to stay.

But it's more than fun! The Lifebuoy Wash-Up Chart teaches children—in a fascinating, story-book way—how hands come in contact with germs on almost everything we touch—how these germs breed sickness, spread disease. It stresses washing hands often—*always before meals*—with purifying Lifebuoy Soap. For Lifebuoy's abundant, creamy lather removes not only dirt, but germs as well.

Refreshes tired skin

Mothers like Lifebuoy, too. Its rich, penetrating lather deep-cleanses—acts like a tonic for tired skin—keeps it clear and fresh. Lifebuoy gives *extra* protection. Purifies and deodorizes pores—stops "B.O."

FREE: To parents who must *battle* for clean hands. A Lifebuoy Wash-Up Chart and school-size Lifebuoy Soap for each of your children! Simply fill in and mail coupon below.

NRA MEMBER U.S. WE DO OUR PART

LIFEBUOY
HEALTH SOAP
for face, hands, bath

free

LEVER BROTHERS CO., Dept. 1910, Cambridge, Mass.

Please send me, free, Lifebuoy trial cakes and "Wash-Up" Charts for my.....children.

Name.....

Address.....

City..... *State*.....

AN ANSWER TO "THE RADIO GYMNASIUM CLASS"

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"First, the class should be in charge of a thoroughly trained physical education instructor" who will announce at the beginning of each period that this class is for saps who have not enough imagination to find in their lives ways to secure activity of the whole man, for physical illiterates who are badly educated persons, and for cripples unable to indulge in normal activity.

"Second, after" considerable thought "I have concluded that the best results can be obtained" by selecting silent instructors who will be most effective when television is perfected. This is appropriate for the followers of DeLaspee, and the dumb-bell woven on the instructor's shirt will be the symbol of the trade and not a blot on the escutcheon.

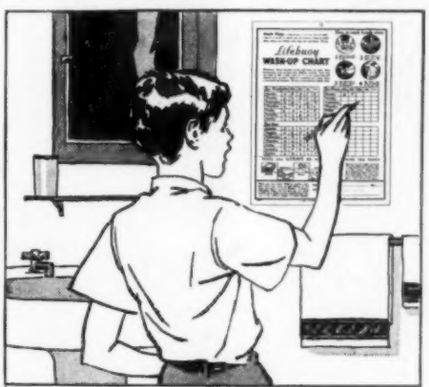
"Third, the radio gymnasium class offers" up a golden calf as a symbol of rich, red-blooded, vigorous, bullish (optimistic) health instruction. It will encourage health by "pep" talks, asking people to smile when the problem of doing the "bootstrap lifter" is serious but wholly unimportant business.

"Fourth, the sets of exercises" will be middle class. First-class exercises will be supplied to those sending name and address to station BLAH (there will be given free to those who send age and sex, a canary whistle which looks sort of like a canary but sounds like other

(Continued on page 950)

OUTDOORS JOHNNY WAS A REGULAR FELLOW. ALWAYS IN THE THICK OF THINGS . . . AND DID HIS HANDS GET DIRTY!

BUT HE HATED SOAP LIKE POISON! "FORGOT" TO WASH — AND THAT MEANT SCOLD, SCOLD, SCOLD ALL THE TIME!



THEN HIS MOTHER DISCOVERED A FASCINATING GAME THAT WON JOHNNY OVER TO WASHING HANDS OFTEN

SEE HOW CLEAN JOHNNY KEEPS HIS HANDS NOW. A RELIEF FOR MOTHER... REAL HEALTH PROTECTION FOR JOHNNY!

THE Lifebuoy Wash-Up Chart has helped thousands of happy mothers to solve the "clean hands" problem. It changes washing hands from a duty to a thrilling game. This way the most rebellious children become ardent soap "fans"—the clean hands habit is here to stay.

But it's more than fun! The Lifebuoy Wash-Up Chart teaches children—in a fascinating, story-book way—how hands come in contact with germs on almost everything we touch—how these germs breed sickness, spread disease. It stresses washing hands often—*always before meals*—with purifying Lifebuoy Soap. For Lifebuoy's abundant, creamy lather removes not only dirt, but germs as well.

Refreshes tired skin

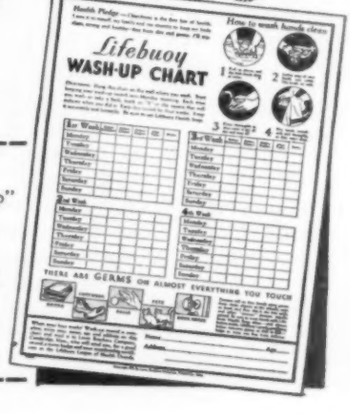
Mothers like Lifebuoy, too. Its rich, penetrating lather deep-cleanses—acts like a tonic for tired skin—keeps it clear and fresh. Lifebuoy gives *extra* protection. Purifies and deodorizes pores—stops "B.O."

FREE: To parents who must *battle* for clean hands. A Lifebuoy Wash-Up Chart and school-size Lifebuoy Soap for each of your children! Simply fill in and mail coupon below.

NRA MEMBER U.S. WE DO OUR PART

LIFEBUOY
HEALTH SOAP
for face, hands, bath

free



LEVER BROTHERS CO., Dept. 1910, Cambridge, Mass.

Please send me, free, Lifebuoy trial cakes and "Wash-Up" Charts for my.....children.

Name.....

Address.....

City..... *State*.....

AN ANSWER TO "THE RADIO GYMNASIUM CLASS"

(Continued from page 949)

free emanations on the air; for those who send a photograph, Balaam's Ass in minature will be forwarded post-paid).

"Fifth, a chart will be furnished which" tells you when to get up, when to go to the toilet, when to lace your shoes, when to comb your hair, when to send a fan letter and other vital responses that show you have a "health consciousness."

If these rules and "pedagogy" are followed, I predict that some day the name of the radio gymnasium class will come into its own, a modest internment, fitting a poor "bastard" that does not deserve to live.

JESSE FEIRING WILLIAMS, M.D.,
Teachers College,
Columbia University,
New York City.

HEART DISEASE—THEN AND NOW

(Continued from page 880)

this type of heart disease makes up only 2 per cent of the total, involving about one in every twenty-five cases of old rheumatic heart disease and an occasional heart congenitally deformed. A much more virulent and brief heart infection, acute bacterial endocarditis, which is also usually fatal, attacks a few individuals already ill with other infections such as pneumonia or gonorrheal arthritis. Various germs may be causative agents, and the heart itself may or may not be normal at the outset.

A woman, aged 35, passes by; she has observed that she is gradually growing nervous, irritable and thin, that she perspires too easily and that her heart pounds much of the time and often races. Her family and friends note that her eyes protrude and that her neck is prominent in front over the region of the thyroid gland. She has exophthalmic goiter, known also as hyperthyroidism or thyrotoxicosis. Her metabolism is high, and her heart labors and pounds to keep up with it. Eventually in such a case the heart may become irregular and enlarged and, especially if there are complications like high blood pressure and valvular disease, heart failure and death may ensue. Some years ago this kind of heart disease made up about 3 per cent of all the cases of cardiac ailment which were observed; rapidly it has been growing less, because this is an easily preventable type, and appreciable progress has already

(Continued in column 3)

"I'm going where I can get Pettijohn's for breakfast"

Children do get tired of the same hot cereal. And Pettijohn's is so deliciously different. Real whole wheat. Flaky. Flavory! Fun to eat! Cooks in 3 to 5 minutes. Try it for breakfast tomorrow.

IF your child says, "I quit"—be ready. Say "I, too, longed for a *different* hot cereal. There, in my great-coat, you'll find a box of Pettijohn's."

Pettijohn's is one hot cereal that's really *different*. Remember the good old cracked wheat grandmother'd cook all night long? And next morning, when you ate those golden flakes of *real* whole wheat . . . Mmmm! You felt like a million. You felt buoyant. Optimistic. Because you were eating the *natural* unrefined body-building food Nature intended for you.

Pettijohn's is that same *real* whole wheat. Has that same luscious texture. The identical body-building values. Only it's flaked tissue thin, so as to cook done in 3 to 5 minutes!

In addition, Pettijohn's is a *regulative* aid. Brings you whole *bran*. Not *dry* bran. But bran softened by cooking that won't harm the normal digestive tract.

Don't let your child leave home. Serve this *different* hot cereal tomorrow.

Pettijohn's is accepted by the committee on Foods of the American Medical Association. This seal is your guarantee of the quality of any product.

Pettijohn's

Rolled Wheat with All the Bran

Product of The Quaker Oats Company

HEART DISEASE—THEN AND NOW

(Continued from column 1)

been made. The early recognition of the thyroid trouble and its early correction by operation consisting of removal of most of the gland should result in the complete wiping out of this heart disease. Probably even more important, however, than the cure of the thyroid disease will be the eventual development of knowledge as to its prevention. This also should come with time. Too little thyroid secretion, the condition known as hypothyroidism or myxedema, is the reverse of hyperthyroidism. It may be attended by sluggish heart action with dilatation. Fortunately this condition is rare and is easily corrected by feeding thyroid gland.

A strong man, 42 years old, goes by to tell the doctor that he is beginning to be troubled by attacks of shortness of breath, which awaken him at night and cause him to sit up for an hour or so to wheeze and gradually to breathe normally again. After several distressing nights he seeks help; his doctor discovers that he is seriously ill with syphilis of the aorta which has resulted in leaking of the aortic valve (aortic regurgitation) with dilatation and recurrent acute failure of the left side of the heart and congestion of the lungs. The heart weakness and the syphilis are treated with great care, but often to little avail; sudden death may end the story a few months later. This is the gloomy side of the picture but unfortunately a common one, presenting itself on the average twenty years after syphilis has been first acquired. Occasionally patients with cardiovascular syphilis show much improvement and gain or recover sufficiently to survive for years. As a rule, however, this type of heart disease is serious with a high mortality soon after its discovery. Fortunately it is not common in some communities, although in others of low standards of life and general neglect of health its incidence may be quite high. In New England it makes up 4 per cent of the cardiac cases. The most important point of all is that by the prevention of the syphilitic infection in youth and by the early diagnosis and adequate treatment of such syphilis when it first comes, cardiovascular syphilis can be almost certainly reduced to a negligible amount and perhaps even wiped out altogether.

The next figure on the path is a woman, 50 years of age, who is beginning to grow short of breath on exertion. At first she attributes

(Continued on page 951)

HEART DISEASE—THEN AND NOW

(Continued from page 950)

this symptom to increasing obesity or to a cold; but when at last she consults her physician, he finds her heart enlarged and her blood pressure high. Slight elevation of blood pressure above the normal is not important; but if the pressure remains high for years, the strain on the heart, arteries and kidneys is severe and often ends with heart failure, apoplexy or Bright's disease, occurring in frequency in the order named. Fortunately medicines and careful rules of health often give much relief, but no cure is available for the high blood pressure, and its cause and prevention are as yet unknown. Here is a mystery awaiting solution; and it is an important mystery too, for high blood pressure is common throughout most of the world. It is found as a cause of heart disease in from a fourth to a third of the patients with heart disease in this country. A generation or two ago it was not even recognized. The cause of much of the enlargement of the heart without valvular disease was an absolute enigma. Some progress has been made in knowledge along this line, but the frontiers have not been advanced greatly.

Last but not least of the important causes of heart disease is trouble with the supply of blood to the heart muscle itself. Such trouble is due chiefly to defects of the little coronary arteries of the heart and therefore is called coronary disease. Such disease is fundamentally a factor in almost all cases of angina pectoris and in patients with coronary thrombosis, which results in a blocking of one of these vital arteries or its branches. A business man, 60 years of age, for two years has felt oppression under the middle of his breast bone on hurrying outdoors, especially after meals; this feeling disappears in a few minutes on resting but recurs again and again, gradually increasing in frequency and severity. That is angina pectoris. The patient was awakened at 2 o'clock in the morning by the same oppression in his chest, which lasted far into the morning and was only somewhat relieved by hypodermic injections. He is now partly numbed but in a state of collapse with poor pulse and low blood pressure. His condition is critical; he may die soon; he may recover temporarily to live for some weeks or months, or his heart may heal sufficiently to allow years of life and of moderate activity. This condition is coronary

(Continued on page 952)

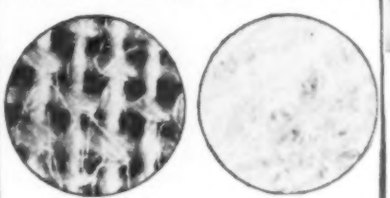
Hands spread COLDS

Germs pass through handkerchiefs to your fingers . . . to check them use

NRA

KLEENEX
disposable tissues

WHY KLEENEX IS SAFE



Handkerchief magnified 64 times — *Kleenex magnified 64 times*

See above why germs pass through handkerchiefs as through a sieve—why Kleenex stops them! Actual tests show handkerchiefs leave approximately 1000 times as many germs on your fingers as Kleenex does. Hands spread germs when you use a handkerchief. Kleenex is safe, protects the family from catching your cold.

Illustrations and text copr. 1933, Kleenex Co.

KEEP that stubborn cold to yourself! Put aside your handkerchiefs and use Kleenex instead.

Enlarged photographs of finest linen handkerchiefs show a weave much like window screen. Germs, mucus, pass through to fingers as through a sieve. From then on, *as proved by actual tests*, everything you touch becomes a source of danger to others, remains so a full 30 minutes!

Kleenex stops germs

Kleenex, far closer in texture than handkerchiefs, and powerfully absorbent, holds germs fast, keeps fingers free from contamination.

And Kleenex is disposable. Its cost is so low, you need use each Kleenex tissue only once. In this way, you prevent reinfecting yourself.

No handkerchiefs to wash!

Kleenex is as smooth as velvet, dry and clean every time you use it. Compare it with a revolting damp handkerchief!

It ends, too, the disagreeable job of washing dirty, coldsoaked handkerchiefs! And it actually costs less to use Kleenex than to send handkerchiefs out for laundering.

Hands cannot enter the Kleenex patented pull-out box to contaminate or to take out more than is required.

Try Kleenex for removing face creams, too. Authorities say it's best, because Kleenex is so absorbent that it blots all impurities from the pores.

Kleenex comes in rolls and packages at 25c; in extra-size tissues—and now, in the new Pocket Packet at 2-for-5 cents convenient for carrying in pocket or purse.

Pay no more than 25c for Kleenex

KLEENEX *disposable* **TISSUES**

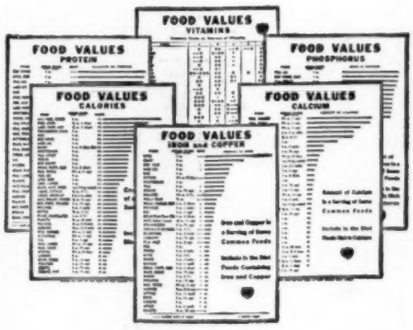
HEART DISEASE—THEN AND NOW

(Continued from page 951)

thrombosis, formerly often and wrongly called acute indigestion.

Coronary disease, showing itself in the form of angina pectoris, of coronary thrombosis, or of heart block, is indeed a common source of illness and death; it is an important factor in about one fourth of the cases of heart disease in New England. Although physicians can aid in its treatment, often to an astonishing degree, they are quite helpless in its prevention; for one reason its cause is not known. Now, as one hundred years ago, physicians are prone to attribute the cause to all sorts of things —the speed of life and its evil accompaniments, and perhaps most of all, hard work under high nervous tension. It seems likely that this is so, but there is no proof as yet; one must keep an open mind. It is not surprising if coronary disease ends life at 80 years or more; but how tragic it is to be faced by young and middle aged men who have it and who are often doomed in a few years. The number of such victims is appalling. It seems fair to try to stem the tide by preaching better habits, such as exercise in moderation, food in moderation, and work in moderation, especially in the case of the sufferer whose family has shown the taint of presenile coronary disease. It is not enough to announce that one should select as one's ancestors those with good arteries. More must be done. A serious situation presents itself. The problem is even more important than that of the rheumatic heart, for frequently men of great ability and experience, important factors in the life of the country, are dramatically removed from the scene at their prime by death or invalidism. This situation is a potent force in retarding the progress of civilization. It must be met, not only by doctors but by the men themselves, who are living and working under heavy strain, and also, perhaps most of all, by their families. It is all very well to boast idly of the recently established fact that the average duration of human life in this country has doubled in the past hundred years from 30 to 60 years. Actually this gain has been due to the tremendous conservation of life in infancy, childhood and youth by the control of dysentery, typhoid, tuberculosis and diphtheria; but once a man reaches 60 years of age in this country now he has less chance of reaching or passing 70 than he had many years ago. Here, indeed, is a great challenge to us all.

MOTHERS, You will want THESE CHARTS!



The quality of the school work done by your children is affected by their nutritional condition. Therefore, good health must be guarded by adequate diets.

The above Food Value charts, published by the National Live Stock and Meat Board, and accepted by the Committee on Foods of the American Medical Association, will be of inestimable value to you in planning properly balanced diets so necessary for your children.

The protein chart gives the quality as well as the quantity of muscle-building material found in many of the common foods; the mineral charts list foods containing large amounts of the minerals so important in the building of strong bones, healthy teeth, and rich blood; the calorie chart illustrates the energy value of many foods; and the vitamin chart, the relative amount of the vitamins necessary for growth and health protection.

This Coupon Will Bring Them to You Without Charge

HY-10

NATIONAL LIVE STOCK AND MEAT BOARD,

407 S. Dearborn St., Chicago, Ill.

Please send me, without charge, the set of 6 charts on Food Values.

Name.....

Address.....

PROGRESS IN PREVENTIVE MEDICINE

(Continued from page 912)

one had heard of vitamins it had been learned that fresh foods, especially the juices of citrous fruits, were useful in the prevention of scurvy. Since the vitamins have come into such prominence, bottle-fed infants in intelligently regulated homes, in institutions and under good medical supervision are apt to be taking their orange or tomato juice about as regularly, if not quite so often, as they take their milk. The results are excellent.

Rickets has long been known as a disease of darkness and of crowded slums, rare in the tropics and sunny lands. It is a disease which appears in growing children while their bones are yet soft, and at its worst it results in terrible bony deformities. It has now been shown to be due to deficiency of a vitamin, designated as D, which is found in large amounts in cod liver oil and which can be generated in certain foods, for example in milk, by ultraviolet radiation. The human body, if given abundant sunshine, can elaborate the vitamin in protective amounts; hence rickets is rare in the tropics, where children go naked and get much sunshine. Happily, severe rickets is less common than it used to be in America, and severe bone deformities are rarely seen now. The mild forms of the disease are said to be common still in our cities, some writers stating that more than half of all city children show traces of it. Education has greatly popularized both the outdoor life for children and the use of cod liver oil or of irradiated ergosterol in the diet. The use of irradiated milk for children fed artificially is also growing. There is a possibility of getting too much vitamin D; hence it is not wise to administer it indiscriminately.

It should be borne in mind that knowledge of vitamins, their natures, functions and total effects, is far from complete. Most of the information in regard to them comes from animal experimentation. That the results are not always the same in man and in animals or even in animals rather closely related is indicated by such facts as that scurvy cannot be produced in birds, dogs or rats, although the guinea-pig, another rodent of rat size, is susceptible. The analog of the human disease beriberi is most readily produced in birds. Pellagra has not been produced in animals

(Continued on page 953)

PROGRESS IN PREVENTIVE MEDICINE

(Continued from page 952)

unless, as seems probable, the black tongue disease of dogs is the animal form.

Much of the popular interest and enthusiasm in regard to vitamins is due to commercial advertising; much may be credited to attraction for something new, strange, "scientific," and easy of application. This is especially true of the popularity of yeast. It does contain vitamins, but so do many common foods, and in amounts sufficient to protect every one if one uses them against the deficiency diseases.

A widely varied and generous diet containing fresh foods from all the great groups of carbohydrates, fats and proteins, vegetables and fruits, meat and eggs, will furnish all the vitamins the ordinary person needs. Food fads, such as vegetarianism, are dangerous and may call for special supplies of vitamins. Likewise the too great use of canned, rather than of fresh, foods may be harmful. So far as is known, all the vitamins except D, which can be built up by the well nourished body with the aid of sunshine, are supplied in foods. Some of them are destroyed by heat or are lost in the processes of food preparation or preservation, but nearly always a generous and varied diet contains a sufficiency of them all. Such a diet and sunshine afford protection. Sun bathing and modern styles in bathing suits have their good points.

"Do you set your name down in the scroll of youth, that are written down old with all the characters of age? Have you not a moist eye? a dry hand? a yellow cheek? a white beard? a decreasing leg? an increasing belly? Is not your voice broken? your wind short? your chin double? your wit single? and every part of you blasted with antiquity? and will you yet call yourself young? Fye, fye, fye, Sir John."

Fortunately the Sir John Falstaffs and their friends do not get rickets. Let them get their sunshine in their own back yards or on the roof and not spoil beautiful scenes.

Pellagra is a disease which is common in many parts of the South and is demonstrably due to dietetic insufficiency. It is probably due to lack of a vitamin called PP (pellagra preventing), which has been postulated but not isolated. It is contained in yeast and also in milk, eggs, fresh meat and fresh vegetables. Persons who suffer from it

(Continued on page 954)

"here's how I know that Tek fits

and cleans all my teeth"

• See with your own eyes, even before you put Tek into your mouth. That narrow curve of your thumb and forefinger is like your dental arch. Tek fits into it—precisely. Your old style brush can't. That means that every tuft of Tek's Better Bristles (laboratory selected) cleans back of your front teeth—and every part of your dental arch. Tek's short brushing head makes short work of cleaning all difficult spots—without strain—without fail.

Tek outlasts, out-performs ordinary brushes. It's a better value, guaranteed. For your protection, Tek is sterilized, Cellophane-sealed. Tek Jr. for children.

Tek
the modern
TOOTH BRUSH

• Johnson & Johnson •
NEW BRUNSWICK, N. J. CHICAGO, ILL.

PROGRESS IN PREVENTIVE MEDICINE

(Continued from page 953)

have usually been living on a restricted diet consisting mainly of pickled pork, corn meal and molasses. Numerous experiments with the dietaries of institutions prove conclusively that it is a preventable disease and can be abolished from institutions by simple means. So well have authorities and officials of the southern states been educated as to this disease that the dietaries of all state institutions have been improved, and the disease is being abolished among the wards of the states. However, it is far too frequent yet among the ignorant and the poor outside of state institutions. Education and all efforts at social betterment must be further popularized and continued, so as to assure to every person the means for procuring an adequate diet, and medical advice when needed. "It is estimated," states J. H. Musser, "that approximately not more than 10 to 15 per cent of pellagrins receive medical attention; not that these patients are not substandard in health and do not require the services of a doctor, but because of their economic status in life it is only when they are extremely sick that they feel they can afford medical care."

Education in diversification of crops, in the use of kitchen gardens and in a wider use of the kindly fruits of the earth is widely needed. Poverty, illiteracy and dietary habits are often harder to kill than germs, and they are much more important in the causation of some diseases, such as pellagra and beriberi. It would seem to one not accustomed to it that nothing should be easier than to educate people away from so unappetizing a diet as fat pork, corn meal and molasses, but the factors already named make progress slow.

[NOTE.—In the November HYGEIA, Dr. Ashburn will conclude his series on "Progress in Preventive Medicine."]

The necessity of insuring the health of all young people as the foundation on which to build other qualities and abilities, and the hopelessness of trying to build where the body is weak, ill-nourished, or uncontrolled is now so well recognized that it has become a commonplace. . . . Health is as important from the social point of view as from the individual, so that attention to it is doubly necessary to a successful community.

—*John Dewey.*

NURSING BRASSIERES

by

Maiden Form

SOLVE THE MOTHER'S PROBLEM

Ask your doctor about the need for proper bust support during the nursing period. . .

Both these brassieres are made with absorbent shields, rubber lining that cannot touch skin; holders for pads of sanitary gauze; and adjustable shoulder straps.

Above: Short bandeau of flesh-colored porous mesh, opens at shoulder straps for easy access to the breasts, No. 382.....$1.00

Right: Long brassiere with wide diaphragm band, elastic gussets. Back fastening, with extra front opening for nursing. Flesh colored porous mesh. No. 7005.....$1.95

If your dealer cannot supply—Write Dept. HO

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Six Safety Posters with each year's subscription

Posters! Stories! Plays! Lesson Plans! Informational Articles!

An excellent publication for both teacher and pupil. Devoted to practical safety teaching material presented in a modern manner.

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Representatives to introduce

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Generous cash commissions are paid, and the work may be full or part time. An excellent way to add to your regular income. *Send for details.*

HYGEIA, 535 N. Dearborn St., Chicago

SEX EDUCATION

(Continued from page 926)

child should be satisfied and that it should be satisfied with something that can serve as a basis for subsequent teaching. The child must learn that he can depend absolutely on the father and mother as a source of honest and authentic information on this subject, just as he can go to the same source for food, for shelter and for help of any sort. The child should never be repressed when asking honestly concerning such matters. Once the demand for the truth is filled, the child can then go about his normal activities without being bothered with things he is too young to understand thoroughly. At this age, interest may be keen for a moment; but when it is satisfied, it will soon turn to other things more closely related to the development of the child. There is not the least reason for the stimulation of an interest in the subject, but there is good reason for quieting the interest by satisfying it. Questions put by the child should be answered when possible, but they need not be provoked. Generalities are sufficient for small children. Mention of pain, danger or sacrifice should never be made, for they cannot be understood.

In case questions which cannot be answered are asked, the parent must make it clear that the question is perfectly proper if it is honestly asked. If the subject is one that may be looked up, it is the duty of the parent to tell the child that he will do so and inform him later. If it is one that cannot be answered, the point should be explained as well as may be and the incident used as an example of the greatness and intricacy of the whole marvelous process. Frequently the ingenuity of the parents will enable them to restate the question so that the child can be satisfied though the direct question is not really answered. Always the teaching and the example set should be on the highest possible plane that the child can understand or appreciate. Parents who understand the process and live the part will have no difficulty.

I shall not attempt here to give the minutiae of the instruction needed. There are several excellent books and pamphlets which may be consulted for all sorts of aids in telling the story. I believe, however, that the imagination and resourcefulness of the parent will do better than any "canned" information. It is not necessary that every bit of the information be absolutely, scientifically up-to-the-minute, provided it is earnestly and truthfully set out as the best that

(Continued on page 955)

PUBLIC RECREATION IS URGENTLY NEEDED AT PRESENT

A statement recently has been made by the board members of the National Recreation Association concerning recreation under present conditions. It follows in brief:

"In these days—as is right and proper—all government expenditures are being questioned. What is the case for public recreation during this emergency? Certainly in this field as elsewhere, all waste, inefficiency and extravagance should be eliminated, and costs should be cut where possible. Taxpayers should also, however, in forming opinion, consider the social values of the service rendered.

"1. *Children* must, should and will play. For the current generation of children, there can be no postponement—for them it is now or never. Under modern urban conditions, public provision has to be made if children are to have proper opportunity for play. . . .

"2. Recreation of a wholesome type is needed today as never before, especially for the *unemployed* who have so much enforced leisure on their hands. Idle, with a resulting tendency toward low morale, with no resources to buy the diversion offered by commercial recreation, the large number of unemployed adults peculiarly need the resources of public recreation.

"3. This is especially true of *young adults*, full of life and vigor, undisciplined by previous work experience, disappointed in their rightful hope and expectation for a job. Through with school, without occupation, they are acutely exposed to antisocial forces and other deteriorating temptations of idleness.

"4. Idleness is, and always has been, dangerous and expensive. Recreation is no substitute for work, but it can and does help tremendously.

"5. Budgets for public recreation are small . . . compared to the value of the service they supply.

"6. Greater public tax costs are probable if recreation is eliminated or too severely reduced. . . . Decreased expenditures for recreation may well involve increase in taxes to maintain jails, reformatories, prisons, insane asylums and hospitals. . . .

"7. Because of considerations like these, many communities have extended their public recreation services. . . .

"The times call for cuts, but they also call for care, for thought, for discrimination, for a careful weighing of the value of services involved as well as of the costs."

FIVE REASONS FOR USING THIS BOTTLE

1 Hygeia Breast Nipple — shaped like mother's breast.

2 Patented reinforced base to resist nipple collapsing.

3 Patented tab allows handling without touching sterilized inner surface.

4 Wide mouth — easy to fill, easy to clean.

5 Smooth, rounded inner surface. Finest glass. Stands repeated boilings. Guaranteed.

No brush or funnel needed to clean and fill this bottle. If time and cleanliness are important to you, use Hygeia Bottles and Nipples. Write for *free* copy "Baby's Own Book," practical and approved suggestions on child care and training. Hygeia Nursing Bottle Company, 197 Van Rensselaer Street, Buffalo, N. Y.

Hygeia
The Safe Nursing Bottle

F. & R.'s
GENUINE
GLUTEN FLOUR
Guaranteed to comply in all respects to standard requirements of the U. S. Department of Agriculture.
Manufactured by
THE FARWELL & RHINES CO.
Watertown, N.Y., U.S.A.

F. & R.'s
GENUINE
WHOLE WHEAT FLOUR
100%
Nothing added—Nothing taken away
Manufactured by
THE FARWELL & RHINES CO.
Watertown, N.Y., U.S.A.

F. & R.'s
GENUINE
GRAHAM FLOUR
A real old-fashioned, honest-to-goodness Graham Flour; exactly like that made by Dr. Graham
Manufactured by
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SEX EDUCATION

(Continued from page 954)

the parent knows on the subject. The development of a philosophy of life and living is much more needed than are the latest scientific details.

Whatever is done or taught, the idealism of the child must be preserved. The rôle of the father as hero, provider and protector, and the part of the mother as one who will love and protect, whatever may happen, cannot be too strongly emphasized. The child easily understands such teaching and responds eagerly to idealism of this sort. The love of the father and mother for each other and for the child is the means by which the child came into existence and is as essentially the truth as if every detail were explained in full.

[NOTE.—In the November issue, Dr. Rice will discuss "The School Child."]

NO DEATHS NEED REALLY RESULT FROM ACUTE APPENDICITIS

Deaths associated with appendicitis are due in most cases to a ruptured appendix, which leads to general peritonitis. At one time the term inflammation of the bowels was used to designate this grave complication, the cause or nature of which was obscure. Now it is well known that peritonitis most often has its beginning in the appendix, a worm-shaped, short, pencil-sized portion of the large intestine in the lower right side of the abdomen. Delay in treatment of an inflamed appendix often leads to rupture, with spread of purulent matter throughout the abdomen.

The first symptom of acute appendicitis is a sudden attack of pain. Discomfort or pain may be general in the beginning, but it tends to settle in the lower right side. Fever, nausea and vomiting are usually present. Although children and young adults are frequently victims, it should be borne in mind that acute appendicitis occurs in the middle aged and elderly person as well, and is no respecter of persons.

Sir William Osler stated that no deaths would result from acute appendicitis if prompt surgical removal of the inflamed appendix were practiced in all cases.

The importance of prompt medical care and early diagnosis is stressed by the Iowa state department of health.

How much soever you may study science, when you do not act wisely you are ignorant.—*The Galistan.*

WINGS OF DEATH

(Continued from page 903)

yellow fever carrier. If such a person were allowed to go from a plane, he might possibly be bitten during the first three days of his fever by an Aëdes aegypti already in this country, and in this manner he might start an epidemic.

For this reason every person coming by plane from Central American and South American ports has to pass a special examination by officers of the U. S. Public Health Service. Any person showing questionable symptoms must go into quarantine until all danger is past. The federal government is building a quarantine hospital on an island near Miami for this purpose.

Although there is no cure for yellow fever, science has learned how to control the spread of this disease by destroying and preventing the breeding of dangerous mosquitoes. Mosquitoes carrying yellow fever breed in open tin cans, flower-pots, plumbing in vacant buildings, rain spouts, cisterns, wells, or any place near houses where a few drops of water standing for several days may serve to hatch the larvae.

When American troops were stationed at Vera Cruz in 1914, army officers found yellow fever present. Drainage canals were dug, cisterns and wells were cleaned and screened, and all possible places in which water might stand were eliminated. The result was that yellow fever disappeared. However the excellent work begun by the American army was not continued, and in 1920 the city of Vera Cruz was again visited by an epidemic of yellow fever. To control and stop it, it was necessary merely to reintroduce the same sanitary measures that had been employed before.

The last appearance of yellow fever of any considerable importance in the United States occurred twenty-five years ago. A generation has grown up unacquainted with this disease and unaware of its possible danger. Had it not been for the watchfulness of the U. S. Public Health Service, an epidemic of yellow fever might have come with the advent of the airplane. Such an epidemic undoubtedly would have interfered seriously with the rapid progress being made in aerial transportation.

In man's fight against disease and death, the price of success is eternal vigilance on the part of health authorities.

Every six minutes in 1932 some one died by accident.

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CORRELATION OF MIND AND BODY

Did you ever try to study after a heavy meal or when weighed down by physical fatigue and exhaustion? Have you noticed how a walk in the fresh air stimulates thinking? Have you ever noticed when you are not well how the lamp of adventure and courage burns low? You can observe in your own daily experience these relationships between mind and body which are always at work to free your mind for its higher and finer uses, or to weigh it down in defeat. You cannot abuse or neglect your body, and make the best use of your mind. In your plans to make the most of your mental heritage, learn to understand your body, to treat it right, to give it the same care that you would bestow on an expensive watch, a fine automobile, a marvelous airplane. Wholesome health habits are the foundation of mental vigor. —*The Journal of the National Education Association.*

PRIVATE DUTY NURSES

A leading Los Angeles medical man, while addressing an assembly of nurses, recently said:

"The nurse is the doctor's first lieutenant, his eyes, his ears; things she sees and hears, and reports to the doctor frequently influence or determine the future treatment of the patient."

Statistics show that the private duty nurse is becoming of greater usefulness, giving every assistance and encouragement in the providing of skilled nursing in homes in shorter periods of time known as hourly nursing; she is making a valuable contribution to her profession through her cooperation in the solving of community nursing problems, comments *The Pacific Coast Journal of Nursing.*

EYES AND INDUSTRY

Safety, medicolegal problems in workmen's compensation, industrial selection and vocational guidance are four arguments in favor of eye examination of industrial employees. In addition the National Society for the Prevention of Blindness points out that the term defective vision is too broad to be applied to the numerous problems of industrial vision. The term used should be specific, as visual acuity, color vision, light sense, indirect vision and depth perception. Eye examinations should be the work of ophthalmologists or oculists exclusively.

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CANNERS URGED TO PACK QUALITY GOODS IN MARYLAND

The state of Maryland is urging canners throughout the state to "pack quality goods, honestly graded and labeled." In addition, since cleanliness and standard products go hand in hand, the department of health recommends that each canner assign a sufficient number of persons to be responsible for the general sanitation of the plant, to see that the place has a real clean-up twice a day and to supervise the living quarters of the workers.

The interior of the cannery should theoretically resemble a modern kitchen, not a dingy machine shop.

Employees should wear clean clothes, and they must not be required to work under sloppy conditions.

All waste must be removed daily and disposed of so that it will not constitute a nuisance.

Boxes and baskets should be kept clean and sweet.

Floors and benches should not become moldy, and drains should not be allowed to become stagnant.

Drains and ditches must be kept clean and free from decaying products.

Living quarters must be kept clean and have ample facilities to protect the health of the workers.

An abundance of good water must be available.

Toilets must be maintained in sanitary order at all times.

These suggestions, emanating from the department of health of the state of Maryland, can well be applied to canneries throughout the country.

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Two sizes . . . 8-oz., with narrow neck or wide mouth, at 25¢; 4-oz., with narrow neck, at 15¢.

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Will Want!

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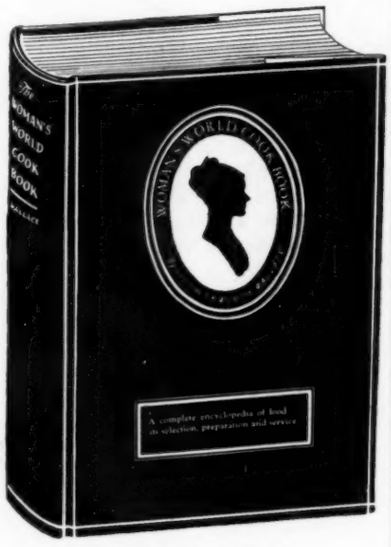
This set of 5 booklets on sex education, published by the American Medical Association, comes in a handsome black case which in itself looks like a book. For the great and growing class of enlightened parents who realize the need for proper sex teaching and are at a loss how to go about it, these booklets offer practical help. They are frank and in keeping with the times without being sensational.

"THE STORY OF LIFE" is for boys and girls of ten, "IN TRAINING" is for high school boys and "HOW LIFE GOES ON AND ON" is for high school girls, "THE AGE OF ROMANCE" is for both sexes of college age, while "THE VENEREAL DISEASES" is for persons of college age or older.

Think of the mothers and fathers you know who are looking for such material for their children — little ones, adolescents and those in their later teens. They will be anxious for the authentic information contained in these booklets. They will welcome the opportunity of getting them with a year of HYGEIA at such a remarkably low price.



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PRENATAL NURSING CARE IS NOT SUBSTITUTE FOR DOCTOR

"Prenatal nursing supervision is in no way a substitute for medical care, but rather aims to make the physician's advice more effectual by teaching the patient how to follow instructions," according to a report from the New York state department of health.

The public health nurse administering prenatal care may carry out her duties in several different ways: by home visits, by assisting at clinics and by conducting group meetings. By such arrangements, nursing care is effectively distributed.

The mother is helped in planning a diet to include the essentials for maintaining her good health and building a strong baby who will be able to resist disease. She is told what foods to avoid. The mother is informed regarding the healthful and economical advantages of breast feeding. Arrangements are also made for hospital or home confinement. The importance of dental care is stressed.

The father is not neglected. He is encouraged to accompany his wife when she visits the physician; and the importance of protecting her from overwork, worry, fatigue and excitement is explained to him.

FRUITS AND VEGETABLES SHOW INCREASED CONSUMPTION

Heavy reductions in the daily wastage and loss of perishable foods in the shops and various markets, an increase in the buying power of the family purse and a general improvement in the health of every resident of New York City are among the salient points in a statement issued recently by Shirley W. Wynne, health commissioner, regarding a more general use of fresh fruits and vegetables during the summer season.

The health commissioner also pointed out that market basket shopping is not only more satisfactory but much more economical. The housewife who can put to use ripened fruits and vegetables has a definite advantage, for usually these foods are sold at a lower cost. The housewife will find "bargains" in foodstuffs daily if she will only shop around.

"A mere increase in knowledge is not enough to safeguard health and prevent disease; the knowledge must be understood, accepted and practiced by the people."

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CLINICAL THERMOMETER HAS INTERESTING STORY

The clinical thermometer is taken for granted by professional persons as well as by laymen. Every one knows its purpose, but few know the history of its development or how it can be most accurately used.

Galileo invented the instrument in 1597, but it was not used until 1611 in diagnosing fever. In 1714, Fahrenheit used alcohol as the expanding medium, a mixture of salt and ice for zero, and body heat as the high point. Celsus offered a scale the freezing point of which was 100 degrees and the boiling point, 0. Christin reversed these points, creating the centigrade scale.

In the United States the Fahrenheit scale is usually used, while the centigrade scale is more common in other countries.

The self registering thermometer was invented by Sixe in 1781. There is on record an instance in 1821, when one of Napoleon's physicians took his temperature. As late as 1864 the thermometer was still a cumbersome affair.

King Edward VII of England, while Prince of Wales, was one of the first laymen to use the pocket thermometer.

Mercury is now used as the best expanding medium, because it is more constant and more sensitive to heat and cold.

The thermometer is a delicate device and should be handled accordingly. Knocking it against a hard surface, washing it in hot water, leaving it near a hot radiator or in the hot sun, and separation of the mercury column are common accidents.

At times thermometers fail to register accurately. Some of the conditions that will prevent the thermometer from reaching its accurate level are as follows: cold weather; talking and laughter by the patient while the thermometer is being held under the tongue; ingestion of coal-tar products by the patient, and drafts or sudden coolness causing the patient's temperature to lower.

When a record of temperature is once accurately secured, it will not change if the thermometer is kept for a long time in the mouth of the patient. It is moved downward only when the thermometer is shaken. Even then it will never go below room temperature.

A thermometer should be of reliable make in order to assure best results. This discussion "About Thermometers" written by Hilda Melching Kastrup, R.N., is given in greater detail in *The Trained Nurse and Hospital Review.*

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Why Welch's
AND NOT CHEAPER JUICES?

It is the Welch process that retains in the bottled juice the valuable nutritional properties of ripe Concord grapes so essential to the system. Welch's is the Certified Pure, Pasteurized Grape Juice. It's aged three months to permit the natural but crude tartaric acid crystals to settle out of the juice. It contains no adulterants, no synthetic flavors, no artificial coloring, no preservatives, no added water. And it's inexpensive . . . the cheapest in 35 years. Welch's is undiluted grape juice, so many prefer to add one-third water to the pint. Mixed this way, Welch's costs less than 3½c a glass.

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